

20 FEBRUARY 2001



Flying Operations

**AEROSPACE PHYSIOLOGICAL TRAINING
PROGRAM**

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OPR: AFMOA/SGOA (Colonel Al Hartzell)

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(Maj General Earl W. Mabry)

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This instruction implements AFD 11-4, Aviation Service. It governs the Air Force Aerospace Physiological Training Program. The program teaches the physiological stresses and human factor implications of modern military aviation and prepares the flyer to meet these challenges. The goal of this program is to enhance flight safety by helping to reduce the number of human factor mishaps. It applies to active duty Air Force, Air Force Reserve, and Air National Guard personnel on flying status, passengers in certain types of aircraft, and personnel who manage physiological training and research chamber activities. It implements NATO STANAG 3114, *Aeromedical Training of Flight Personnel*; and NATO STANAG 3474, *Temporary Flying Restrictions Due to Exogenous Factors Affecting Aircrew Efficiency*, Air Standard 61/101/3, *Aviation Medicine/Physiological Training of Aircrew*, and Air Standard 61/117/1, *Aviation Medicine/Physiological Training of Aircrew in Spatial Disorientation*. **Records Disposition.** Maintain and dispose of records created as a result of processes prescribed in this publication in accordance with AFMAN 37-139, *Records Disposition Schedule*. Send recommendations for changes on AF Form 847, **Recommendation for Change Publication**, to AFMOA/SGOA, 110 Luke Avenue, Room 405, Bolling AFB DC 20332-7050. **Attachment 1** is a glossary of references and supporting information.

The Privacy Act of 1974 affects this instruction. The authority of Title 10 U.S.C. Sections 133 and 8013 allows the collection and maintenance of this information. Forms required by this instruction and affected by the Privacy Act have appropriate Privacy Act Statements. Privacy Act System of Records Notice F044 AF SG H, Air Force Aerospace Physiology Training Programs, applies. The use of a name of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force.

SUMMARY OF REVISIONS

This revision incorporates Interim Change 2001-1 and further defines the role of the Human Performance Training Teams; explains the changes in cadet, High Altitude Parachute (HAP), and refresher aerospace physiological training expiration dates; outlines authorized training units, clarifies medical qualifications

for civilian trainees; adds **Chapter 12**, Curriculum and Training Standards Program. A “|” indicates revised material since the last edition. The entire text of the IC is at the last attachment.

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Chapter 1

RESPONSIBILITIES ASSIGNED

1.1. Surgeon General. HQ USAF/SG provides medical, technical, fiscal, and administrative supervision needed to carry out the Aerospace Physiological Training Program.

1.1.1. The Objectives of the USAF Aerospace Physiology Program are:

1.1.1.1. To develop and conduct physiological and human factors training that meets the needs of USAF crewmembers, non-aircrew warfighters, and support personnel.

1.1.1.2. To support Team Aerospace in developing and delivering physiological/human factors threat briefings specific to the deployed environment.

1.1.1.3. To develop the human factors expertise to support aircraft mishap investigation.

1.1.1.4. To develop and field Human Performance Training Teams (HPTT) to provide human factor and performance support for the warfighting community.

1.1.1.5. To assist Team Aerospace in the safe and effective deployment and employment of aircrews.

1.1.1.6. To support special needs of the aircrews and their customers.

1.1.2. The USAF Surgeon General approves the appointment of a senior NCO to perform additional duties as the Air Force Career Field Manager (AFCFM) for the 4M0X1 Air Force Specialty. The AFCFM acts as the communication link between the Air Force Surgeon General's office and the enlisted personnel in the Aerospace Physiology career field. The AFCFM:

1.1.2.1. Develops and maintains the currency of the Career Field Education and Training Plan (CFETP).

1.1.2.2. Assists the technical training manager and course personnel with planning, developing, implementing, and maintaining all AFSC-specific training courses.

1.1.2.3. Acts as final waiver authority for enlisted training/classification requirements.

1.1.2.4. Assists the Air Force Occupational Measurement Squadron (AFOMS) in identifying subject matter experts (SMEs) for Specialty Knowledge Test (SKT) revision projects and acts as consultant on promotion test content and question validation inquiries.

1.1.2.5. Assists AFOMS in developing and administering Job Inventory Surveys and interpreting Occupational Survey Reports (OSR) data.

1.1.2.6. Develops, coordinates, and implements career field classification/structure changes.

1.2. Major Command (MAJCOM). MAJCOM headquarters should support the regulatory, technical, and resource needs of the following (note that programs within line organizations may be funded through line channels): USAF Aerospace Physiology Programs, MAJCOM Aerospace Physiology Program, MAJCOM Human Performance Training Team Program, MAJCOM Aerospace Physiology Personnel, MAJCOM Aerospace Physiology Facilities and Equipment, MAJCOM High Altitude Airdrop Mission Support Program, MAJCOM Centrifuge and Pressure Suit Operations.

1.2.1. MAJCOM personnel conduct the training courses outlined in [Chapter 6](#). MAJCOMs may broaden and modify each course to meet specific command and weapon system requirements. AFMOA/SGOA is the approval authority for all modifications. After receiving approval, MAJCOM personnel must include the modifications in their supplements to this instruction.

1.2.2. The command surgeon provides medical, technical, fiscal, and administrative supervision and support required to carry out the program.

1.2.3. The US Air Force considers MAJCOM Aerospace Physiology Training Flights (APTF) and physiological support squadrons (PSPTS) as geographical area training facilities. They provide the training support, addressed by this instruction, to all US Air Force flying organizations in the geographical area, irrespective of MAJCOM affiliation, and to all Air National Guard and Air Force Reserve organizations. They also provide training support to DoD organizations and other Federal employees.

1.2.4. The MAJCOM Coordinators:

1.2.4.1. Must be a fully qualified aerospace physiologist, Air Force Specialty Code (AFSC) 43AX, M11XXX, or M12XXX.

1.2.4.2. Are appointed by each MAJCOM command surgeon whose command has one or more aerospace physiology training or support functions.

1.2.4.3. Function as the command focal point, and the command surgeon's staff representative for aerospace physiology and aviation human factors.

1.2.4.4. Consult on command-wide management, inspection and coordination of aerospace physiology resources.

1.2.4.5. Monitor medical aspects of the US Air Force Life Support Program.

1.2.4.6. Provide High Altitude Airdrop Mission Support (HAAMS) when tasked by the ACC HAAMS OPR.

1.2.4.7. Monitor and review physiological training conducted by other US or allied military agencies for US Air Force aircrew.

1.2.4.8. Designate a senior NCO as MAJCOM Functional Manager (MFM) (4M0X1) to assist in accomplishing the duties and responsibilities of the command coordinator.

1.2.4.9. Provide consultant services for physiological, human factor, and human performance investigations and analyses of military aircraft and ground mishaps.

1.2.4.10. Should visit their constituent command APTFs and Human Performance Training Teams annually to review, advise, and consult on individual APTF issues. Costs for MAJCOM Coordinator APTF annual visits should be incorporated into annual O&M budget where the coordinator is assigned.

1.2.5. All physiologists assigned to mishap boards should be graduates of the Air Force Aircraft Mishap Investigation Course, (WCIP05A), Kirtland AFB, New Mexico, or the Aircraft Mishap Investigation and Prevention Course (B30ZY43A3 002), Brooks AFB, Texas.

1.2.6. The MFMs:

1.2.6.1. Provide guidance on 4M0X1 assignments, when requested by HQ AFPC or MAJCOM; will coordinate formal training schools with the appropriate agencies.

1.2.6.1.1. Assist their MAJCOM Coordinator in accomplishing special projects and disseminating command policy on aerospace physiology matters.

1.2.6.1.2. Manage their MAJCOM enlisted career development, including intracommand enlisted assignments and career field education and training.

1.2.6.1.3. Provide MAJCOM support for all Utilization & Training Workshops (U&TW).

1.2.6.1.4. Assist the AFCFM in developing the CFETP and the Career Development Courses (5-level and 7-level).

1.2.6.1.5. Assist the AFCFM on taskings from AFMOA and career field enlisted issues by providing research data and supporting documents when necessary.

1.2.6.1.6. Provide inputs to the strategic planning process for the Aerospace Physiological Training Program.

1.3. HAAMS Program Responsibility. In accordance with AFI 11-409, *High Altitude Airdrop Mission Support Program*, the ACC Command Coordinator is responsible for the HAAMS Program and designates 1 AMDS/SGPT Langley AFB, VA 23665-2080 (DSN 574-7827/3913) as the tasking agency for all HAAMS operations except PACAF. PACAF HAAMS operations are tasked by 18 AMDS/SGPT Kadena AB, JA (DSN 315-634-1967). HAAMS operations are considered any Joint Airborne/Air Transportability Training (JA/ATT) mission, Special Assignment Airlift Missions (SAAM), or other flight operation that involves the use of Aerospace Physiology Technicians (PTs) or Aerospace Physiologists to support unpressurized aircraft flight, to include High-Altitude Low-Opening parachute technique (HALO)/High-Altitude High-Opening parachute technique (HAHO) personnel and equipment drops, equipment testing and research, and Psychological Operations (PSYOP).

1.4. Medical Unit Commander. Provides medical, fiscal, and administrative supervision and support required at base level.

1.5. Commander, Aerospace Physiology Training Flight (APTF):

1.5.1. Manages all aspects of training and support.

1.5.2. Supports the local wing with appropriate aerospace physiology and human performance enhancement training. Supports regional aircrews with aerospace physiology and human performance enhancement training. Manages active and safe participation of unit aerospace physiology personnel in flying operations.

1.5.3. Works as an integrated team with local flight safety and flight medicine in addressing local training needs. Establishes strong relationship between APTF and Flight Safety to include a review of recent/applicable ground and flight safety mishaps due to human performance or physiological factors.

1.5.4. Ensures unit personnel participate regularly in wing and squadron flying safety meetings. Ensures all briefings are properly coordinated with the host Flight Safety Office and Flight Medicine Office. Specific medical/physiological briefings should be provided to unit aircrews on a regular basis with topics tailored to unit taskings and training programs.

1.5.5. Provides and annually budgets for consultant services for physiological and human factor investigation and analysis of military aircraft mishaps upon request from the MAJCOM.

1.5.6. Provides HAAMS when tasked by the ACC Command Coordinator according to appropriate regulations, directives and support agreements and budgets annually for HAAMS TDYs based on previous years' missions.

1.5.7. Supports research in aerospace physiology and aircrew life support equipment.

1.6. Superintendent, Aerospace Physiology. The Manager, Superintendent or Noncommissioned Officer in Charge (NCOIC) of an APTF:

1.6.1. Manages the unit enlisted force and serves as resource manager for assigned personnel.

1.6.2. Identifies and requests formal and informal training courses needed to qualify enlisted personnel to meet mission tasking.

1.6.3. Requests depot maintenance through the MAJCOM.

1.6.4. Establishes close liaison with the wing aircrew life support program manager and ensures aerospace physiology personnel are familiar with MAJCOM aircrew life support guidance and policy.

1.6.5. Coordinates training for unit aerospace physiology personnel in areas of aircrew life support, personal equipment, aircraft escape, egress, and survival training for assigned wing aircraft.

1.6.6. Ensures an effective aerospace physiology instructor and technician in-service training program is established and monitored.

1.6.7. Maintains repository for lesson plan background information.

1.6.8. Maintains standardized lesson plans for aerospace physiology enlisted instructors.

1.6.9. Establishes close liaison with aircrew life support ensuring ongoing development of realistic training for aircrews.

1.6.10. Develops, implements, and documents a plan to ensure familiarity of aerospace physiology technicians with the flying environment.

1.6.11. Ensures recurrent review of aerospace physiology technicians' role in training aircrews and non-flying personnel.

1.7. Human Performance Training Teams:

1.7.1. Provides inputs to wing commanders on human performance issues, which may negatively, impact combat capability. Assists in Operational Risk Management. Provides deployed commanders human performance information to apply to theater risk management decision-making models.

1.7.2. Provides local life support and wing safety consultation on theater specific human performance issues. Develops human performance related threat briefs specific to the theater of operation, based on local intelligence analysis, weather, and other operational/environmental conditions to increase mission effectiveness.

1.7.3. Monitors ground and flight safety mishap data for trend analysis and develops preventative human performance strategies to reduce negative human performance trends.

- 1.7.4. Assists with medical force protection. In conjunction with other Preventative Aerospace Medicine (PAM) team members, develops human performance threat briefings for deployed personnel designed to communicate potential health and performance risks.
- 1.7.5. Serves as human performance consultant to the flight surgeon for mishap investigation to help identify/resolve human performance/human factor issues.
- 1.7.6. Offers AFI 11-403 Standardized Curriculum as required to meet aircrew training requirements.
- 1.7.7. Provides consultations and training of fatigue-countermeasure tools at the operational Wing, Group and Squadron levels.
- 1.7.8. Complies with duty requirements specified in AFMAN 36-2105 and AFMAN 36-2108.

Chapter 2

TRAINING REQUIREMENTS

2.1. Personnel Who Are or Will Be Placed on Active Flying Status:

2.1.1. Original Training. The following people must complete this training:

2.1.1.1. Pilot and navigator trainees in Joint Specialized Undergraduate Flying Training (JSUFT).

2.1.1.2. Pilot trainees in Euro-NATO Joint Jet Pilot Training (ENJJPT) and Undergraduate Pilot Training-Helicopter (UPTH) before they start the flying phase of training.

2.1.1.3. Nonrated aircrew members assigned Aviation Service Code 9C (Active-Operational Support). These include, but are not limited to: test engineers, and certain maintenance personnel.

2.1.1.4. Nonrated aircrew members assigned Aviation Service Code 9D (Active-Nonrated Aircrew Member), i.e., officers and enlisted personnel authorized to fly as crewmembers in crew positions identified in AFI 65-503, *USAF Cost and Planning Factors Guide*, Attachment 36-1, *Authorized Aircrew Composition-Active Forces*.

2.1.1.5. Nonrated aircrew members assigned Aviation Service Code 9W.

2.1.1.6. Flight surgeons, flight nurses, aerospace physiologists, aeromedical evacuation technicians and aerospace physiology technicians get original training according to the training syllabus at the USAF School of Aerospace Medicine.

2.1.1.7. Private contractor personnel when so designated by the cognizant Government Flight Representative (GFR).

2.1.1.8. Students completing Original Training are certified for 5 years and recertify by completing Refresher Training as described in paragraph 2.1.4.

2.1.2. High Altitude Parachutist (HAP) Initial Training. HAP initial training is provided to qualified jump rated personnel participating in parachute operations above 10,000 feet MSL as required by Air Force, MAJCOM, US Army, or US Navy directives. In isolated circumstances, when HAP initial students cannot be trained as a homogenous group refer to paragraph 6.2.3. for training requirements. Students completing HAP initial training are certified for 5 years and recertify by completing refresher training as described in paragraph 2.1.4. Exceptions to training described in 2.1.4.1. and 2.1.5.1. apply to parachutists.

2.1.3. Officer Cadet Initial Training. Designed to provide initial aerospace physiology training to meet the specific needs of USAFA cadets and ROTC cadets in their flying programs. Students completing officer cadet initial training are certified for 4 years, but cannot be recertified by completing refresher training. **NOTE:** Training remains valid after graduation until expiration date.

2.1.4. Refresher Training. Designed to recertify training for original, HAP initial, and refresher training. All flying personnel must complete refresher training once every five years (this applies to training conducted on or after 1 Oct 98), unless they are exempted by this instruction or by AFI 11-202 Vol 1, *Aircrew Training*. The expiration date is the last day of the month in which training is required. For example, if the last training was conducted on 19 October 1998, the next training is due not later than 21 October 2003. Those who are delinquent in the training will not fly and could be subject to disqualification IAW AFI 11-402. **NOTE:** Aircrew who received a one-year extension prior to 1 Oct 98 due

to an assignment in European and Middle Eastern theaters must complete refresher training at the end of their extension.

2.1.4.1. Training Requirements Before Returning to Active Flying Status. Personnel in inactive status are not required to complete physiological training (AFI 11-202, Vol 1). Aircrew members returning to active status must complete refresher physiological training prior to resuming active flying if their previous training has expired.

2.1.5. Exceptions to Training. Personnel who qualify as exceptions:

2.1.5.1. Requirements Before Removal From Active Flying. This paragraph applies to flying personnel being retired, separated, placed in inactive status, or reassigned to nonflying positions. Refresher physiological training is not required if individuals on active flying status are current, and if removal from active flying status occurs during the 4-month period after the due date (AFI 11-202, Vol 1).

2.1.5.2. Aircrew who have more than 20 years of flying service and have completed two or more refresher physiology courses with chamber flights receive refresher academics every 5 years. However, training in an altitude chamber is the aircrew member's option. Refresher training requirement must be documented on the AF Form 702, **Individual Physiological Training Record**.

2.1.5.3. Aircrew required to wear pressure suits for high altitude operations complete refresher training every 5 years as described in paragraph 8.4.

2.1.5.4. Rated personnel, transferred, in student status, or on exchange duty from the US Navy, US Coast Guard, US Marine Corps, or US Army, who have current aerospace physiology training in their service are not required to take US Air Force refresher training before their first flight in US Air Force aircraft unless they are to fly fighter-type aircraft. Those personnel flying fighter-type aircraft (which includes T-37 and T-38) can be qualified to fly with a 1-2 hour briefing by an Air Force Aerospace Physiologist on subjects in paragraph 6.1.2., paragraph 6.1.7., and paragraph 6.1.10.. Interservice transfer personnel who do not require initial aerospace physiology training will hand carry a copy of qualification record or test results to the gaining unit.

2.1.5.5. International foreign flying personnel who have current aerospace physiology training from their country are not required to take US Air Force refresher training before their first flight in US Air Force aircraft if their country's aerospace physiology training program is unconditionally accepted. APTFs must verify training currency and publish an AF Form 702, **Individual Physiological Training Record**, indicating date of training and expiration. International foreign flying personnel from countries not listed below will participate in the appropriate USAF Aerospace Physiology Refresher course as directed by paragraph 2.1.4. and described in paragraph 6.5. prior to their first flight in US Air Force aircraft. USAF flying personnel on foreign exchange status who have received training from countries listed below are not required to take refresher training prior to returning to USAF aircraft as long as physiological training currency requirements identified in para 2.1.4. have not been exceeded.

2.1.5.5.1. Aerospace physiology training is unconditionally accepted from the following countries: Australia, Canada, Denmark, Germany, Greece, Japan, Jordan, Korea, Norway, Pakistan, Philippines, Portugal, Saudi Arabia*, Thailand, United Kingdom. * Saudi Arabian aircrews flying in ejection seat aircraft who are current in aerospace physiology need only a firing in an ejection seat trainer.

2.1.5.5.2. Aerospace physiology training and centrifuge training are unconditionally accepted from the following countries: **Netherlands, Singapore, Taiwan, Turkey.**

2.1.5.6. Non-aircrew personnel, assigned to helicopter duties who do not fly above 10,000 feet mean sea level (MSL), do not require Aerospace Physiology training to fly in helicopters.

2.1.5.7. Personnel Returning from Overseas. If physiological training currency should expire during the three months prior to the Permanent Change of Station (PCS) month and training can not be attained, then the member's training currency is extended by three months past the return to CONUS. This will allow the member to accomplish training upon return to CONUS without interrupting the flying schedule of either the gaining or losing wing.

2.1.5.8. Non-USAF parachutists may attend the US Navy HAHO/HALO course (NP6) in lieu of the USAF HAP initial course.

2.1.5.9. Physiology training is waived during pregnancy. Waiver must be applied for IAW AFI 48-123, Medical Examination and Standards, paragraph A7.22.1.1.

2.2. Passengers in Aircraft Flying Above 18,000 Feet Mean Sea Level. Personnel must complete:

2.2.1. Passenger Training as described in paragraph 6.4., before flying, unless exempted by a specific Memorandum of Understanding (MOU).

2.2.2. Students completing Passenger Training are certified for one year, but cannot be recertified by completing Refresher Training.

2.2.3. Personnel who qualify as exceptions are passengers who fly in E-3, E-4, E-8, KC-10, C/KC/RC/EC-135, EC-130, EC-137, MC-130, AC-130, WC-130, T-1, T-39, T-43, and C-designated aircraft.

2.3. Civilian Training:

2.3.1. The local wing commander may authorize training for civilians when required for military orientation flights. The organizational commander must justify training for government employees and government-contractor employees. Justification letter will be addressed to the regional APTF.

2.3.2. Civilians authorized US Air Force physiological training must complete original, passenger, or refresher training, as appropriate.

2.3.3. HQ USAF/SGI, Congressional and Public Affairs, must be notified by letter or phone, DSN 297-5046, of all civilian Distinguished Visitors (DV), before training is accomplished. The local base Public Affairs office should also be notified. Annotate all DV training on AF Form 699, **Physiological Training Record** and AF Form 702, **Individual Physiological Training Record**. Include the DV's name, organization, and reason for the training in the monthly report.

2.3.4. Reserve Officer Training Corps (ROTC) and Civil Air Patrol (CAP) members are eligible to receive US Air Force physiological training when their organizational commanders authorize training with a letter of approval or by placing them on orders.

2.3.5. The minimum age for all nonmilitary trainees is 18. Comply with the state's age requirement, when more restrictive.

2.3.6. The Air Force authorizes all other civilians training under the US Air Force and Federal Aviation Administration (FAA) Agreement. CAP members are authorized FAA training at no cost.

2.3.7. AFMOA/ SGOA must approve support for civilian high altitude projects, special projects, the use or long-term loan of operational (versus broken or outdated) aircrew life support equipment, and personnel support.

2.4. Personnel Who Must Complete Refresher Training Before Permanent Change of Station (PCS) to an Overseas Location. All flying personnel being assigned to an active flying assignment overseas must complete refresher physiological training so that currency will not expire during their overseas tour. Personnel returning to CONUS can follow the guidance in stated in [2.1.5.7](#).

2.5. Requalification. Any person may be requalified in aerospace physiology training by taking a refresher course if they previously had original, operational support, or HAP initial training.

2.6. Waiver requests. Request for waivers to this instruction should be directed to **Chief, Aerospace Physiology (or his/her designee), AFMOA/SGZA, 110 Luke Avenue, Room 405, Bolling AFB, DC 20332-7050, DSN 297-4200, Commercial (202) 767-4200, FAX DSN 754-8089, FAX Commercial (202) 404-8089.**

Chapter 3

QUALIFICATIONS OF PHYSIOLOGICAL TRAINING PERSONNEL

3.1. Biomedical Sciences Corps, Rated Officers, and Enlisted Personnel. All personnel assigned for duty with the Air Force Aerospace Physiology Training Program must be graduates of the Aerospace Physiology Officer Course or the Aerospace Physiology Apprentice Course. ITXs assigned to Aerospace Physiology Training units are not required to attend the Aerospace Physiology Apprentice course, but must complete upgrade training in aerospace physiology topics and duties to supplement their specialty training. Upgrade training will be performed locally at their aerospace physiology unit of assignment and training documentation will be maintained in the individual's OJT records. Rated aerospace physiologists assigned to active flying positions should maintain currency in aircraft for which they are qualified. Rated aerospace physiologists who fly will comply with all aircrew training and operational directives, to include crew rest, mission planning, preflight, flight time, postflight, maintenance and mission briefings.

3.2. Operational Support Flights. Aerospace physiology personnel receive periodic operational support flights in aircraft for which they provide training to enable these personnel to better tailor courses to local flying requirements.

3.3. Medical Examination and Medical Standards. All personnel must meet the flying physical requirements of AFI 48-123 (ASC 9C - Operational Support). They must take part in regular, frequent chamber flights as required. Individuals placed in a "duty not involving flying" (DNIF) status will be evaluated by the local flight surgeon to determine their fitness to perform outside chamber duties.

3.4. Platform Instructors. Officer or enlisted instructors giving formal classroom presentations must be graduates of an Air Force academic instructor course, technical instructor course, or academic instructor training conducted as a part of the AFSC awarding courses taught at the USAF School of Aerospace Medicine.

3.4.1. Aerospace physiology personnel qualify as platform instructors by meeting MAJCOM, local APTF, and Standardization/Evaluation requirements listed in [Chapter 12](#).

3.4.2. Conduct initial qualification and continued monitoring of physiological training instructors per MAJCOM direction and [Chapter 12](#) of this AFI.

3.4.3. Maintain a file on each individual assigned to hypobaric and/or hyperbaric duties. The file should contain, as a minimum, medical and instructor qualifications. For example: AF Form 1042, **Medical Recommendation for Flying or Special Operational Duty**; hazardous duty orders, if available, or a letter signed by the individual's commander placing them on chamber duty; AF Form 1256, **Certificate of Training**; AF Form 702, **Individual Physiological Training Record**; DD Form 114, **Military Pay Order**, etc. Dispose of records according to Air Force directives.

3.5. Personnel Not Directly Assigned to a Chamber Facility. All personnel not directly assigned to a research or training chamber activity may be attached according to MAJCOM needs to a local research, APTF or PSPTS by the MAJCOM Coordinator with AFMOA/SGZA approval. If a chamber unit requires attached personnel to perform inside observer duties during chamber operations, individual requests for approval will be considered. HPTT personnel will not ordinarily be attached to a chamber unit unless the MAJCOM coordinator justifies the need. Individual requests must be initiated, in writing, by the host

APTF or PSPTS commander to their MAJCOM Coordinator for approval. Requests must fully justify reasons for using attached personnel (manning shortage, increased training load, etc.) and must state a specific period of time the attached person is needed. If approved by the MAJCOM Coordinator, the request must be forwarded to AFMOS/SGZA for final approval. Attached personnel will also respond to the other needs of the host APTF or PSPTS and must provide services as outlined by AFMOA/SGZA and as required by the host APTF or PSPTS commander, or research director. This requirement applies to individuals who meet the following conditions:

3.5.1. Medically qualified for such duty.

3.5.2. Located close to a US Air Force chamber activity (no temporary duty (TDY) required).

3.5.2.1. TDY permitted if determined by the local commander to be required to maximize job performance and is mission essential.

3.5.3. Involved in the management, evaluation, formulation, or teaching of physiology and aerospace physiological training, related research and development, or test and evaluation programs.

3.5.4. Likely to return to direct support of aerospace physiology training or related research programs.

3.5.5. Services provided by attached personnel may include:

3.5.5.1. Consultation to the unit staff.

3.5.5.2. Pre- and post-chamber flight briefings.

3.5.5.3. Hyperbaric chamber support, when qualified.

3.5.5.4. Review of instructions, new techniques, and procedures.

3.5.5.5. Classroom training when required.

3.5.5.6. Support activities provided by these attached personnel must be reported on a monthly basis by the unit of attachment.

3.6. Aerospace Physiology Personnel Training Requirements:

3.6.1. All aerospace physiologists and aerospace physiology technicians will maintain refresher aerospace physiology training currency as described in paragraph 2.1.2. of this instruction. Document training on AF Form 702 and maintain in individual's unit personnel folder.

3.6.2. All aerospace physiology personnel are highly encouraged to attend the following Air Force formal schools: Airborne (Parachutist) - J5ZAZ1T231-001, Military Freefall Parachutist - J5AZA1T231-006, Combat Survival Training Course- S-V80A., Arctic Survival Training- S-V87A., Water Survival – Parachuting - S-V86A..

3.6.3. APTFs performing a flying and or parachute mission (EXAMPLE: HAAMS, parasail training and test parachute jumps) must project needed quotas to Airborne (Parachutist), Combat Survival Training and Water Survival-Parachuting courses annually. APTFs supporting HAAMS should schedule their parachute qualified personnel to attend the Military Freefall Parachutist Course.

3.6.4. In addition to the courses listed above, aerospace physiologists assigned to an APTF or PSPTS should attend either the Aircraft Mishap Investigation Course (WCIP05A) or the Aircraft Mishap

Investigation and Prevention Course (B30ZY43A3 002), the Human Performance Enhancement Course (B30ZY43A3 001), and the Aviation Human Performance Course (WCIP07K).

3.6.5. In addition to the courses listed above, aerospace physiology technicians assigned to an APTF or PSPTS should attend the Aviation Human Performance Course (WCIP07K).

Chapter 4

LIMITATIONS ON INSIDE INSTRUCTORS-OBSERVERS

4.1. Maximum Exposures for Inside Instructors-Observers. Exposure limits for personnel inside low-pressure chambers:

- 4.1.1. Four flights in a 7-day period to or above 25,000 feet.
- 4.1.2. Three flights in a 7-day period to or above 30,000 feet.
- 4.1.3. Two rapid decompressions in a 7-day period. These may be taken in combination with exposures above.
- 4.1.4. At least 23 hours between exposures to rapid decompressions; at least 12 hours between exposures to or above 25,000 feet; and at least 22 hours between exposures to or above 30,000 feet.
- 4.1.5. The chamber exposure levels listed in this chapter are considered the maximum exposures permitted.

4.2. Hazardous Duty Pay. This pay is authorized for personnel assigned to inside instructor and observer duty in a hypo/hyperbaric pressure chamber. Members on competent orders to perform this duty who do not participate in a hypobaric flight or hyperbaric dive during a month, must be reported to their appropriate accounting and finance office for collect-pay action for that month.

4.3. Starting Hazardous Duty Pay. To start hazardous duty pay, provide the local Air Force finance office a copy of orders assigning the individual to inside instructor and observer duty in an organization that participates in hypo/hyperbaric chamber exposures. Include a signed letter from the local commander (i.e., medical squadron commander for APTFs, medical group commander for PSPTSs) indicating that the individual participates in chamber exposures. Attach a DD Form 114, **Military Pay Order**, with a certifying officer's signature for the effective date (i.e., exposure date) and an AF Form 1373, **MPO Document Control-Log**. Separate Hazardous Duty Orders are not required but can continue to be used if already available.

4.4. Authority To Issue Orders. The authority to issue orders that assign a member to duty as a chamber inside instructor or observer, according to Executive Order No. 11157, Section 109, is delegated to:

- 4.4.1. Chief of Staff, US Air Force.
- 4.4.2. MAJCOM commanders.
- 4.4.3. Numbered Air Force commanders.
- 4.4.4. Support group commanders.
- 4.4.5. Medical group commanders.
- 4.4.6. Commander, 311 Human Systems Wing.
- 4.4.7. Commander, United States Air Force School of Aerospace Medicine.

4.4.8. Send other requests for orders through command channels to HQ AFPC/SGCB, with an information copy to AFMOA/ SGOA. All requests to HQ AFPC/SGCB must be fully documented and justified.

Chapter 5

METHODS USED IN THE TRAINING PROGRAM

5.1. Aerospace Physiological Training Facilities. Aerospace physiology training of US Air Force personnel conducted by US Army, US Navy, FAA, National Aeronautics and Space Administration, or foreign countries does not fulfill the requirements of this instruction except as noted in [2.1.5](#). The Joint Specialized Undergraduate Flying Training program conducted at Pensacola fulfills the requirements of this regulation. Department of Defense (DoD) activities may request to use Air Force physiological training facilities. The Air Force will provide this training support to US Navy, US Coast Guard, and US Army organizations according to existing support agreements. All military installations or other DoD activities may directly communicate with the APTFs for required training. The FAA may ask APTFs to provide instruction for civilian aircrew personnel according to the USAF and FAA agreement.

5.2. Classroom Lectures. The APTF Commander or 9 PSPTS Commander is responsible for conducting aerospace physiological training programs. Aerospace physiologists give most classroom lectures. Fully qualified aerospace physiology technicians, survival, evasion, resistance, escape (SERE) specialists, or aircrew life support technicians can provide lectures on the following topics: protective equipment, emergency escape and egress, ejection seat, survival equipment training, and parachuting techniques. If available, qualified parachutists should give the survival equipment and emergency escape from aircraft lectures. SERE specialists or aircrew life support instructors may also give high altitude aircraft survival lectures. Fully qualified aerospace physiology technicians may provide cabin pressurization and altitude chamber flight lectures. Aerospace physiology training in aircrew life support equipment and survival is designed to complement training received during initial and recurring aircrew life support continuation training (ALSCT) events by emphasizing the physiological and human performance aspects of each curriculum topic. Individuals who have attained a primary AFSC of 4M071 or higher, and an Associates Degree or higher may be certified by the local APTF commander to teach the subjects listed in paragraph [6.1.1](#). and [6.1.5](#). Aerospace Physiology Technicians may also be qualified to teach the entire Initial High Altitude Parachutist (HAP) or HAP Refresher Course provided they have attained a primary AFSC of 4M071 or higher, hold an associates degree or higher, and have experience in High Altitude Airdrop Mission Support (HAAMS) operations, qualified as a parachutist, or are certified in HAP oxygen equipment. The APTF commander must provide these technicians additional, comprehensive training to teach the subjects listed in paragraph [6.1.1](#), [6.1.2](#), [6.1.5](#), [6.1.6](#), and [6.1.8](#). This additional training must be documented in the individual's OJT record.

5.3. Training Classes. Classes should be small to stimulate individual participation. Schedule classes to provide homogeneous groups (e.g., rated and nonrated duties in similar aircraft, crew members performing duty in the same weapon system category). Recommend the use of locally developed student handouts.

5.4. Qualified Aerospace Physiology Training Technicians. During training, these technicians conduct practical demonstrations, as required, in the physiological aspects of:

- 5.4.1. The use of oxygen, protective, and survival equipment.
- 5.4.2. The use of pressure suits.
- 5.4.3. Night vision and night vision goggles.

5.4.4. Emergency egress from aircraft.

5.4.5. An aerospace physiologist will annually monitor training activities provided by aerospace physiology, aircrew life support, or SERE specialists conducting training classes for the APTF.

5.5. Audiovisual Products . You may use audiovisual products to enhance lectures. However, these do not take the place of lectures or demonstrations.

5.6. Low-Pressure Chamber Flights. Use low-pressure chamber flights to demonstrate the hazards associated with changes in barometric pressures and the proper use of protective equipment. These hazards include the symptoms of hypoxia, pressure breathing, mechanical effects of barometric pressure change, and proper use of oxygen equipment.

5.7. Written Tests. Written tests are required of all Original students. Students need a score of at least 80 percent to pass. You may not use programmed text-type tests that include the correct answers to each question. The student should review all tests and correct them to 100 percent. Scores below 80 percent require more instruction and retest. When a retest is required, enter both scores (example 75/95) on AF Form 699, **Physiological Training Record**. An aerospace physiologist certifies satisfactory training on AF Form 702, **Individual Physiological Training Record**; and AF Form 1274, **Physiological Training**. Report personnel who demonstrate inadequate knowledge of the instructed subject to their unit commanders and arrange for them to repeat the course of instruction.

Chapter 6

TRAINING PHASES

6.1. Original Training. This phase is conducted early in the training of flying personnel. It lasts approximately 16 hours (2 days). It includes Type 1 ([Attachment 2](#)) and Type 2 ([Attachment 3](#)) chamber flights and instruction in the following subjects:

6.1.1. Physiological Effects of Altitude. Teaches the characteristics of the atmosphere; anatomy and physiology of circulation and respiration; circulatory and respiratory responses to environmental stresses; hypoxia and hyperventilation, their causes, prevention, recognition, and treatment; and physiology of trapped and evolved gas problems, including cause, prevention, recognition, and treatment.

6.1.2. Human Performance. Deals with self-imposed stresses, oxygen discipline, alcohol, carbon monoxide, blood donation, shock, extremes of temperature, diet, dehydration, drugs, fatigue, circadian rhythms, physical fitness, principles of cockpit/crew resource management, and situational awareness.

6.1.3. Oxygen Equipment. Deals with the various types of oxygen masks and regulators; aircraft oxygen systems; gaseous, liquid, on-board oxygen generation systems and chemical oxygen; and the physiological aspects of the emergency use and inspection of this equipment.

6.1.4. Cabin Pressurization and Decompression. Teaches the principles of cabin pressurization, rapid and slow decompression and the possible physical and physiological consequences, and the procedures to be followed after cabin depressurization.

6.1.5. Pressure Breathing. Deals with the need for pressure breathing, its limitations, pressure breathing techniques, and precautions.

6.1.6. Principles and Problems of Vision. Teaches basic anatomy of the visual system, physiology of day and night vision, factors affecting vision, dark adaptation, scanning methods, flash blindness and hazards of lasers. If available, include an unaided night vision demonstration during this curriculum subject to practice methods of improving night vision.

6.1.7. Spatial Disorientation and Other Sensory Phenomena. Teaches how the body orients itself on the ground and compares this with the effects of flight. Teaches the characteristics and specific examples of Types 1, 2 and 3 spatial disorientation. Includes an explanation of the central and peripheral visual modes and their effects on orientation. Addresses illusions derived from vision, semicircular canals and otolith organs to include the G excess effect. Night Vision Goggles (NVG) will be addressed to those aircrews whose unit mission includes their use, emphasizing their use, adjustment, illusions and perceptual problems. Covers problems associated with motion sickness. This training for refresher students is required only for pilots, navigators, flight surgeons, aerospace physiologists, flight engineers, boom operators, loadmasters, and aerial gunners. All JSUPT students and navigator students entering the fighter/attack track after initial flight training are given a ride in a spatial disorientation demonstrator.

6.1.8. Noise and Vibration. Teaches the basic anatomy of hearing. Discussion includes the sources, harmful effects of exposure to hazardous noise and vibration, and means to avoid overexposure.

6.1.9. Speed. Deals with the aeromedical aspects of high speed flight, aircraft ejection, flight instruments, cockpit temperatures, closure rate, visual problems, etc.

6.1.10. Acceleration. Teaches the physical and physiological effects of acceleration forces (G-forces), human tolerance, and means used to raise G tolerance and endurance (required only for aircrew members of trainer, attack, reconnaissance, and fighter aircraft).

6.1.11. Escape From Aircraft. Teaches the physiological principles and problems of escape under different conditions of altitude and speed. Covers the principles of crash survival.

6.1.12. Physiological Aspects of Ejection Seat and Parachute Training. Includes a mandatory ride in the air charged ejection seat trainer for all JSUFT students. Other students undergoing original or passenger training, who are going to fly in ejection seat aircraft, receive instruction and a ride in this trainer if it is available at the local physiological training unit. When required by MAJCOM supplements or JSUFT syllabi, includes training in the care and use of the parachute, parachute control and parachute landing techniques.

6.1.13. Prechamber Flight Indoctrination. Teaches the purpose of the chamber flight and the chamber flight profiles.

6.2. High Altitude Parachutist (HAP) Initial Training.

6.2.1. This course lasts at least 8 hours and includes the subjects described in paragraph [6.1.1.](#), [6.1.2.](#), [6.1.3.](#), [6.1.5.](#), [6.1.6.](#), [6.1.8.](#), [6.1.11.](#), and [6.1.13.](#)

6.2.2. Students participate in a Type 3 chamber flight ([Attachment 4](#)).

6.2.3. Emphasis is placed on the high altitude aspects of these subject areas as they pertain to HAP operations. If HAP-specific oxygen equipment is available, it must be used. If the unit does not have the capability of using the HAP-specific oxygen equipment in the altitude chamber, then hands-on training must be given in the classroom. If HAP-specific oxygen equipment is not available, equipment may be taught from a slide presentation by an instructor with HAAMS or HAP experience. In isolated circumstances, when HAPs cannot be trained as a homogenous group, they may be trained with original students, if coordinated with the MAJCOM and all other provisions of this paragraph are met for the parachutist.

6.3. Officer Cadet Initial Training.

6.3.1. This course is designed for USAFA and ROTC cadets who are scheduled to fly during their training programs.

6.3.2. Course lasts at least 8 hours and includes the subjects described in paragraph [6.1.1.](#) through [6.1.8.](#), [6.1.10.](#), [6.1.12.](#), and [6.1.13.](#)

6.3.3. Students participate in a Type 4 chamber flight ([Attachment 5](#)).

6.4. Passenger Training:

6.4.1. This course is designed for personnel who are scheduled to fly as a passenger in aircraft not listed in paragraph [2.2.3.](#) and who have not completed Original aerospace physiology training or Officer Cadet Initial Training.

6.4.2. Course lasts at least 6 hours and includes the subjects described in paragraph [6.1.1.](#) through [6.1.5.](#), [6.1.8.](#), [6.1.10.](#), [6.1.12.](#), and [6.1.13.](#)

6.4.3. General officers, colonel wing commanders, and colonel group commanders may attend a 4-hour Passenger course and includes subjects described in paragraph 6.1.1. through 6.1.5., 6.1.8., 6.1.10., 6.1.12., and 6.1.13.

6.4.4. Students participate in a Type 4 chamber flight ([Attachment 5](#)).

6.5. Refresher Training:

6.5.1. Nature and content of refresher instruction:

6.5.1.1. This course includes at least 3 hours of classroom instruction and may require more in order to adequately address the pertinent topics peculiar to specific weapon systems.

6.5.1.2. Reviews subjects presented in original training with emphasis on weapon system problems, human performance enhancement, situational awareness, spatial disorientation and physiological problems.

6.5.1.3. Lesson objectives designed for specific weapon systems and developed by the Trainer, Attack, Reconnaissance, Fighter (TARF), Tanker, Transport, Bomber (TTB), Helicopter (HELO), and HAP committees will be used for TARF, TTB, HELO, and HAP refresher training courses.

6.5.1.3.1. When teaching a HAP refresher course, HAP-specific oxygen equipment must be used, if it is available. If the unit does not have the capability of using the HAP-specific oxygen equipment in the altitude chamber, then hands-on training must be given in the classroom. If HAP-specific oxygen equipment is not available, equipment may be taught from a slide presentation by an instructor with HAAMS or HAP experience.

6.5.1.4. TARF, TTB, and HAP students will receive a Type 4 chamber flight ([Attachment 5](#)).

6.5.1.5. HELO students will receive a Type 5 chamber flight ([Attachment 6](#)).

6.5.1.6. Students may ride in a spatial disorientation demonstrator, if available

6.5.2. Executive Refresher Course. General officers, colonel wing commanders, colonel vice wing commanders, colonel group commanders, colonel vice group commanders, and colonel MAJCOM Surgeons may attend a 2 1/2-hour refresher course tailored to the needs of their current assignments. At a minimum, course should include a discussion on situational awareness, spatial disorientation, G-induced loss of consciousness (for fighter aircrew), and a review of altitude threats to performance. This course includes a Type 4 chamber flight ([Attachment 5](#)) or a Type 5 chamber flight ([Attachment 6](#)) depending on assigned weapons system category.

6.5.3. Officer Cadet Initial and Passenger personnel are not authorized to complete refresher training. Officer Cadet Initial and Passenger personnel must complete Original Training, HAP Initial Training, Officer Cadet Initial Training, or Passenger Training as described in [Chapter 2](#).

Chapter 7

CHAMBER FLIGHTS

7.1. Supervision of Flights. An officer who meets the qualifications described in [Chapter 3](#) supervises chamber flights. During all chamber flights, a designated flight surgeon must be able to respond by telephone within two minutes and get to the chamber within 15 minutes.

7.2. Post-flight Restrictions. The following are postflight restrictions for personnel who take part in chamber flights:

7.2.1. No physical exercise, strenuous or extended duty for a period of 12 hours.

7.2.2. Do not assign personnel as flying crew members for at least 12 hours after completion of any chamber flight above 25,000 feet.

7.2.3. Personnel may fly as passengers in aircraft during this period but should remain below a cabin altitude of 10,000 feet.

7.2.4. There is no restriction on flying as a crew member or passenger after a chamber flight to 25,000 feet or below except that they remain below a cabin altitude of 15,000 feet.

7.3. Chamber Flight Exposures After Diving. Personnel must delay altitude chamber and aerial flight exposures for at least 24 hours following compressed air diving. This includes SCUBA (self-contained underwater breathing apparatus) diving, surface supplied diving, or hyperbaric chamber exposure. If the dive requires a decompression stop, recommend 48 hours elapse prior to aerial flight or altitude chamber exposure. **EXCEPTION:** Pararescue and Combat Control personnel assigned to Air Force Special Operations Command Special Tactics Units will follow guidelines per US Navy Diving Manual, Volumes I and II, on flying after diving restrictions. Specifically, these divers should not fly for 12 hours after surfacing from a decompression dive or for two hours following a no decompression dive. If aircraft cabin pressure is maintained below 2,300 feet altitude, then flying is permitted immediately after any breathing mixture dive. Flying is permitted immediately after 100-percent oxygen diving.

7.4. Scheduling Requirements. The scheduling base ensures that personnel scheduled for training meet appropriate medical standards. Means of verification between the Chiefs of Aeromedical Services and Aerospace Physiology must be established. Trainees should bring their AF Form 702 and appropriate medical clearances. In the absence of written medical clearance, telephone verification with the trainee's home medical facility is authorized. This must be annotated on the back of the trainee's AF Form 699. Print or type the name of the person who verified the clearance. During the chamber preflight briefing, ask trainees about their current physical status (colds, sinusitis, headaches, abdominal pain, digestive upset, ear trouble, pregnancy, injuries, etc.). Trainees who have been involved in compressed air diving activities within the past 24 hours or have donated blood within the past 72 hours cannot participate in chamber flights. Trainees whose beards, mustaches, or facial cosmetics interfere with a safe oxygen mask fit may not participate in chamber flights. Refer trainees with physical problems to the flight surgeon. The required medical clearance forms are:

7.4.1. For Military Personnel:

7.4.1.1. Copy of AF Form 1042, **Medical Recommendation for Flying or Special Operational Duty**, DA (Army) Form 4186, **Medical Recommendation for Flying Duty**, or Naval Medical Form 6410/2, **Clearance Notice (Aeromedical)**, indicating that a flying Class I, II, or III physical has been completed for flying personnel or candidates for flying positions. US Coast Guard, US Navy, and US Army personnel may present any of the forms previously listed, or may substitute a letter from their local flight surgeon certifying a group of trainees' medical fitness for the chamber flight. These same forms certify that nonflying personnel meet required medical standards.

7.4.1.2. US Air Force, Army, or Navy Reserve Officer Training Corps (ROTC) cadets will present evidence of satisfactory completion of SF 88, **Report of Medical Examination** or DD Form 2351, **Medical Examination Review Board (DODMERB) Report of Medical Examination**, accomplished within 36 months of the scheduled training. **NOTE:** Before scheduling cadets for training, ROTC detachment must send Aerospace Physiology Training Flight copies of SF 88, **Report of Medical Examination**, and SF 93, **Report of Medical History**, or DD Form 2351, **Medical Examination Review Board (DODMERB) Report of Medical Examination**, and DD Form 2492, **Report of Medical History**. APTF will have local flight surgeon review these forms and stamp them "**Qualified to participate in altitude chamber training**" for all cadets physically qualified. APTF will then contact ROTC detachment and schedule cadets for appropriate training.

7.4.1.3. Exceptions for altitude chamber requirement granted to aircrew following bleomycin chemotherapy. AF Form 1042, **Medical Recommendations for Flying or Special Operational Duties**, will list the following restriction statements in the Remarks block:

No assignment to aircraft requiring routine use of oxygen equipment. Waiver from altitude chamber exposure. Ground training without supplemental oxygen is acceptable.

Annotate the AF Form 699, **Physiological Training Record**, block 19, Chamber Flight, Type, with the following statement: ***Waived-see back.*** Annotate the back of the AF Form 699 with the following statement: ***Altitude chamber exposure waived per AF Form 1042 due to Class II-C waiver for bleomycin chemotherapy.*** Annotate AF Form 702, **Individual Physiological Training Record**, Remarks block, with the following statement: ***Chamber flight waived IAW Class II-C waiver restrictions.***

7.4.2. For Civilian Personnel:

7.4.2.1. Those undergoing US Air Force or FAA physiological training chamber profiles must present a copy or original of current FAA Form 8402-2, FAA Medical Certificate flying classes I, II, or III (dated no more than three years prior to the last day of the current month), or the same forms listed in paragraph 7.4.1. indicating that they meet medical standards.

7.5. Course Completion Requirements. Students who do not complete chamber flights within 90 calendar days of academic training must repeat the academics listed in paragraph 6.1.1., paragraph 6.1.3. paragraph 6.1.4., paragraph 6.1.5. and paragraph 6.1.13. prior to their chamber flight.

7.6. Rates of Ascent and Descent. Rates of ascent and descent for most chamber flights must not exceed 5,000 feet per minute. Exceptions include the rapid descent portions of the Type 2 and Type 3 Flights, the rapid ascent portion of the Type 1, Type 3 and Type 4 Flights, and emergency operations.

7.7. Maximum Number of Students Authorized on Chamber Flights. The maximum number of students on a chamber flight is the maximum number designed to be held by the main chamber or lock compartment.

7.8. Inside Observer Requirements. Inside observer (IO) requirements for all initial chamber flights (Original, HAP, Passenger) are 1 IO for 1 student, 2 IOs for 2-10 students, and 3 IOs for 11 or more students. Refresher chamber flights (Type 4) require a 1 IO for 5 or fewer students, and 2 IOs when there are more than 5 students.

7.9. Chamber Reactor Plan. A hypobaric chamber reactor plan is required that covers the potential need for hyperbaric oxygen treatment. This plan will include:

- 7.9.1. The location, operating hours, telephone numbers, and capabilities of the closest acceptable hyperbaric treatment facilities.
- 7.9.2. Available means for transporting chamber reactors.
- 7.9.3. Location and operation of appropriate oxygen equipment to treat reactor.
- 7.9.4. Information relative to contacting the Davis Hyperbaric Laboratory, Brooks AFB TX.

7.10. Chamber Flight Objectives and Demonstrations. The flights described in [Attachment 2](#) through [Attachment 6](#) are performed in low-pressure chambers.

7.10.1. Hypoxia demonstrations should be conducted within the limits of useful consciousness and should not be terminated until all trainees have experienced their hypoxia symptoms. Inside observers should encourage students to recover independently, without assistance from observers or other students.

7.10.2. For hypoxia demonstrations on all refresher flights, masks and regulators should be configured as they would be in flight, as well as can be simulated. For example, C-130 crewmembers will generally have regulators turned ON and 100% O₂ selected, and fighter aircrew will generally have regulators turned ON and NORMAL O₂ selected. Use of quick-don masks should be encouraged for those using them operationally. Note that quick-don masks cannot be used during denitrogenation.

7.10.3. Give a rapid decompression flight to each Original trainee. Objectives include giving the trainee practical experience in applying the techniques and principles learned in the classroom to a sudden loss of cabin pressure. All personnel must have had an ear and sinus check within two hours prior to the rapid decompression flight. You must set the lock compartment at an altitude 500 feet above field elevation and the main chamber at an altitude that will generate a 4.5 psi rapid decompression. NOTE: Make sure that students are not exposed to a pressure differential greater than 4.7 pounds per square inch. If possible, the students should wear the same type of oxygen masks that they will use in aerial flight. The students should don their masks before or after the decompression, depending on their normal use of oxygen equipment during routine aircraft operations. An aerospace physiologist must be immediately available (response time less than 30 seconds). The inside observer gives the instruction during the flight.

7.10.4. A flight surgeon must be physically present during all medical evaluation flights. Flight surgeon serves as the medical monitor during these flights. A flight surgeon may accompany a qualified inside observer to directly monitor medical evaluation flights. Flight surgeons do not qualify for haz-

ardous duty incentive pay since these flights are so rarely indicated and therefore the Air Force does not consider them a routine and integral part of the flight surgeon's assigned mission.

7.10.5. Equipment check flights must be conducted (or limited) as required to check the performance of chambers, oxygen equipment and protective devices. Hypobaric training chambers must not be used to test and evaluate aircrew life support equipment (oxygen regulators, oxygen masks, automatic parachute actuators, etc.) involved in physiological incidents or aircraft mishaps. Hypobaric training chambers must not be used to conduct research.

7.10.6. MAJCOMs may develop special flight profiles to meet specific training requirements. AFMOA/SGOA must approve these profiles before they are used.

7.10.7. Demonstration of appropriate hypoxia recovery techniques is a course requirement for all students. Students should be critiqued on their ability to accomplish all required steps for complete recovery, to include selecting "ON", "100% O₂", and "Emergency" pressure on the regulator, putting mask on face, checking oxygen systems, and communicating potential problems over the intercom. Students who do not demonstrate appropriate hypoxia recovery techniques will be provided additional training on the importance of early hypoxia recognition and appropriate treatment steps.

Chapter 8

PRESSURE SUIT TRAINING

8.1. Pressure Suit Training Requirements. Conduct pressure suit training and support for personnel who routinely fly at 50,000 feet MSL or above. MAJCOMs determine the content of the course in accordance with MAJCOM guidance (e.g., ACCI 11-459, U-2/SR-71 Physiological Support Program). This training is mandatory when the pressure suit assembly is initially issued and fitted. Individuals must not take part in any flight while wearing a pressure suit that was not fitted by qualified Air Force physiological support personnel.

8.2. Original Pressure Suit Training. Original pressure suit training including survival and aircrew life support training consists of no less than 16 hours of instruction. Personnel attending this course must have completed Aerospace Physiology Original Training as outlined in [Chapter 6](#), paragraph [6.1](#). Individuals desiring this course must be approved for training by the Aerospace Physiology unit chief prior to being scheduled (9 PSPTS/CC for Beale AFB or 95 AMDS/SGOT flight commander for Edwards AFB).

8.3. Passenger Pressure Suit Training. Designed for personnel who have a short term need to fly in a high altitude platform (such as incentive/observer flights). The course is approximately 4 hours in length and is designed to acquaint individuals with full pressure suit operations and emergency egress. Passenger pressure suit training is valid for 90 days from the date of completion. There is no Passenger Pressure Suit Refresher training course. This course does not meet the aircraft specific aerospace physiology refresher training (i.e., TTB, TARF, etc.) currency requirements.

8.4. Refresher Training. Aircrew who have had original pressure suit training as described in paragraph [8.1](#) are required to complete refresher pressure suit training every 5 years. This course is only for individuals who have completed original pressure suit training. Pressure suit refresher training must be broad enough to meet the requirements of [Chapter 6](#), so that pressure suite and routine TARF/TTB refresher training are accomplished simultaneously. The full pressure suit chamber flight is substituted for the Type 4 refresher flight to complete both the full pressure suit and TARF/TTB refresher course requirements. Training should include emphasis on both the high altitude and the companion training aircraft.

Chapter 9

CENTRIFUGE TRAINING AND OPERATIONS

9.1. Overview. Conduct centrifuge training and support for personnel who routinely fly high performance aircraft in which the high G environment poses a significant hazard. Conduct training at authorized facilities according to AFI 11-404, *Centrifuge Training for High-G Aircrew* and MAJCOM instructions regarding centrifuge training for aircrew of high performance aircraft. Only an aerospace physiologist qualified in centrifuge training operations may certify centrifuge training on an AF Form 702, **Individual Physiological Training Record**.

9.2. Application. This chapter applies to centrifuge training and operations conducted at the Physiological Training Center (PTC), Holloman AFB NM and Pilot Instructor Trainees at Randolph AFB TX who are trained at Brooks AFB TX.

9.3. Crew Composition and Qualifications:

9.3.1. The minimum centrifuge crew will consist of an Aerospace Physiology Officer (APO), lecturer, operator, and crew chief. Utilize flight surgeon (FS) in conjunction with emergency medicine notification. FS will be notified if an emergency or non-routine medical treatment is required. Assigned FS will remain on call during the entire training period, and will be notified via phone and/or beeper of a requirement to respond to centrifuge injury. Response time for FS to arrive at Physiology Training Center will not exceed five minutes.

9.3.2. The Commander of the PTC will establish qualification criteria and procedures for all members of a centrifuge crew with the exception of the FS.

9.3.3. The Chief of Flight Medicine, Holloman AFB will establish qualification criteria and procedures for Holloman AFB flight surgeons.

9.3.4. The Commander of the PTC and the Flight Medicine Flight Commander develop and document appropriate initial and refresher training plans defining qualification requirements and procedures for all centrifuge crew members. Documentation will be maintained as part of the PTC Instructor Folder.

9.4. Electrocardiographic Monitoring. Monitor all centrifuge riders with an electrocardiogram except rated aircrew members participating in training and Holloman PTC personnel in training.

9.5. Training for Other Personnel:

9.5.1. Any US Air Force, US Navy, US Army, or US Marine Corps rated aircrew member, aerospace physiologist, aerospace physiology technician, aircrew life support technician, or aeromedical specialist may ride any profile up to positive 9 G_z. They must have taken the associated academic course and present proof of an appropriate and current US Air Force flight physical or service equivalent indicating fitness for centrifuge exposure.

9.5.2. Handle approval for international military personnel either through normal channels for Initial Centrifuge Training or official embassy request channels.

9.5.3. Other personnel may participate in centrifuge exposure only when a request from a United States government sponsoring agency has been approved by AFMOA/SGOA. Requests must include reason for participation, G limits to be used, and proof of US Air Force certification of medical fitness for centrifuge exposure.

9.6. G LOC Prevention. Personnel who routinely fly high performance aircraft should reference AFPAM 11-404, *G Awareness for Aircrew*. This pamphlet covers basic physiology of high G flight and provides all high G aircrew with a source of reference for information and techniques regarding the prevention of G LOC.

Chapter 10

EQUIPMENT REQUIRED

10.1. Authorized Equipment. A list of equipment and supply items authorized for the Aerospace Physiology Program is located at [Attachment 7](#) of this AFI.

10.1.1. Aerospace Physiology personnel will receive an initial issue of flight equipment to enhance the effectiveness and safety of training programs. Each MAJCOM should specify initial issue items based on the flying mission they support in the MAJCOM supplement to this instruction. Aerospace Physiology Flight Commanders determine the unit's replacement policy for out of service items. Additional equipment will be authorized for use during cold/inclement weather and unit specific operations. Refer to [Attachment 7](#) of this instruction. The local Wing may authorize aerospace physiology units to use a special duty uniform for hot weather operations (e.g., shorts, squadron or unit T-shirt, and cap).

10.2. Issue or Transfer of Training Devices. AFMOA/SGOA must approve issue or transfer of training devices. This includes the issue, transfer, or loan of hypobaric (low-pressure) chambers, man-rated hyperbaric (compression) chambers, ejection seat trainers, spatial disorientation demonstrators, and night vision trainers. The Ogden Air Logistics Center is the functional manager for funding, procuring, installing, modifying, maintaining, moving, repairing, and storing these controlled items.

10.3. Configuration Control Board. The Configuration Control Board (CCB) for hypobaric and hyperbaric chambers, ejection seat trainers (MH-15/T-43) and spatial disorientation trainers is AFMOA/SGOA. You will not require separate MAJCOM CCB action for modifications to these controlled items.

Chapter 11

MAINTAINING PHYSIOLOGICAL TRAINING RECORDS, FORMS PRESCRIBED

11.1. Aerospace Physiology Monthly Report (RCS: HAF-SG(M) 7137). This report provides a list of assigned personnel including grade, AFSC, lecture hours, flying hours, number of chamber flights, altitude chamber hours, total accrued chamber time, number of hyperbaric dives, hyperbaric dive time, and total accrued dive time; training demographics such as branch of service, MAJCOM, base assigned, type of training, and numbers trained; HPTT activities; medical problems including inflight emergencies, types of reaction(s), severity, patient information (type of flight, date, symptoms, and treatment administered); and summarizes personnel changes including TDY, promotion, awards, decorations, etc. This report is used to:

11.1.1. Assess future Air Force training requirements.

11.1.2. Procure and assign specialized equipment.

11.1.3. Provide for the availability of trained officers and enlisted personnel to conduct the program.

11.1.4. Provide case studies of chamber reactions, and monitor the workload at training flights.

11.1.5. Officers in charge of Physiological Training Units will prepare a monthly report in software program format. Send the original copy to AFMOA/SGZA, 110 Luke Avenue, Room 405, Bolling AFB DC 20332-7050, no later than the 10th of each month. The initiating office keeps one copy and sends one copy to the command coordinator. Letters of transmittal are not required. Discontinue reporting during emergency conditions as identified in USAF emergency action procedures. **NOTE:** HPTTs will provide a monthly report of activities but are not required to follow the format as specified in **11.1.**

11.2. AF Form 361, Chamber Reactor/Treatment Report (RCS: HAF-SG(AR) 9356). Aerospace physiologist from unit where reaction occurred will send AF Form 361, by the 10th workday, on hospitalized cases and cases diagnosed as evolved gas decompression sickness, whether hospitalized or not, to AFMOA/SGOA, 110 Luke Avenue, Room 405, Bolling AFB DC 20332-7050, and USAFSAM/AOH, 2510 Kennedy Circle, Suite 3, Brooks AFB TX 78235-5119. MAJCOMs may direct additional copies. Letters of transmittal are not required. **NOTE:** If death occurs in circumstances that suggest a hypo/hyperbaric chamber exposure may have been a contributing factor, immediately send a message to AFMOA/SGOA and include HQ USAF/SG as a secondary addressee in the death report. The reactor's equipment should be checked, the oxygen source analyzed, and the results annotated in the remarks section. Discontinue reporting during emergency conditions, as identified in USAF emergency action procedures.

11.3. AF Form 699, Physiological Training Record. Fill out this form for each individual who receives training prescribed by this instruction. File the form at the physiological training unit giving the training. Retain completed AF Form 699 for 6 years. Prescribed electronic medium may be used to satisfy this requirement.

11.4. AF Form 702, Individual Physiological Training Record. For aircrew members, keep a current copy of this record as a permanent part of the Individual Flight Record. For all other personnel, keep this

record as a permanent part of the individual's health record. Aerospace physiology personnel may keep this record in their instructor folders.

11.5. AF Form 712, *Instructor's Flight/Dive Record*. Fill out this form for inside instructor or observer time.

11.6. AF Form 1274, *Physiological Training*. Issue AF Form 1274 to each individual who completes original, refresher, HAP, or passenger training. An aerospace physiologist must sign this form.

11.7. FAA Form 3150-1, *Physiological Training*. Issue FAA Form 3150-1 to each individual who completes the Federal Aviation Administration physiological training course. An aerospace physiologist must sign this form. Forms are stocked and issued by Chief, Physiological Operations & Training Section/AAC-143, FAA Aeronautical Center, P.O. Box 25082, Oklahoma City, OK 73125.

11.8. Supply of Forms. All forms may be obtained from the base Publishing Distribution Office (PDO) except for AF Form 361 and FAA Form 3150-1. Electronic forms are available through the Air Force Electronic Publications Library (AFEPL) or downloaded from the US Air Force Directorate of Departmental Publishing web site at: <http://afpubs.af.mil>. Users can use forms from the PDO, a software forms package, or computer generated forms.

11.8.1. AF Form 361 is stocked and issued by PDO 4101A, 648 SPTG/IMPD, 8006 Chennault Road, Suite 2, Bldg 1150, Room 108, Brooks AFB TX 78235-5314.

11.9. Exposure Numbers. USAFSAM/FP is responsible for administering, controlling, and managing the exposure number program. All aerospace physiologists and aerospace physiology apprentices will be issued an exposure number upon completion of their AFSC awarding course. All other individuals who require an exposure number must be coordinated through USAFSAM/FP. Do not assign exposure numbers at the unit level.

11.9.1. Temporary exposure numbers . When an individual performs duty as an inside observer that is not assigned an exposure number, the temporary exposure number 9999 is used for that individual for that flight/dive. If more than one individual takes part in the same flight/dive, enter the temporary exposure number in descending order 9998, 9997, etc. These temporary numbers are not to be permanently assigned to that individual.

11.9.2. Control of exposure numbers . APTFs will send an exposure number listing of all assigned and attached personnel to USAFSAM/FP, 2602 West Gate Road, Bldg 775, Brooks AFB TX 78235-5252. The listing is to be sent no later than the last duty day of January on an annual basis.

11.10. Forms Prescribed. AF Form 361, **Chamber Reactor/Treatment Report**, AF Form 699, **Physiological Training Record**, AF Form 700, **Physiological Training Monthly Report**, AF Form 702, **Individual Physiological Training Record**, AF Form 712, **Instructor's Flight/Dive Record**, AF Form 1274, **Physiological Training**, DD Form 114, **Military Pay Order**, FAA Form 3150-1, **Physiological Training**, AF Form 1373, **MPO Document Control-Log**.

Chapter 12

CURRICULUM AND TRAINING STANDARDS PROGRAM

12.1. Goals. The goals of this program are to ensure:

12.1.1. All aircrew training courses, listed in [Chapter 2](#), are made available to APTFs and HPTTs in a standardized curriculum format.

12.1.2. Outside evaluations of units, flights, or training teams conducting standardized curriculum courses are accomplished as described in this chapter.

12.1.3. APTF and HPTT personnel are meeting the approved standardized objectives and appropriately utilizing courseware only in support of AFI 11-403 standardized curriculum courses. *(Note: While squadron, safety, and other HPTT specialized briefings may include the same subject material the presentation must be tailored to mission specific needs in order to avoid redundant training during aircrew refreshers.)*

12.1.4. Qualified personnel conduct the presentation of the standardized curriculum.

12.1.5. Flight commanders and HPTT coordinators are educating personnel on the requirements and responsibilities of the Curriculum and Training Standards Program and are conducting an in-house evaluation program as described in this chapter.

12.1.6. Standardized curriculum courses are taught separately. *(Note: Operational needs may dictate the combining of students requiring different standardized courses on rare occasions. All course objectives must be met for each group when combining of students is unavoidable.)*

12.1.7. APTFs and HPTTs are improving the quality of aircrew training and customer satisfaction through continuous improvement of courseware, instructor proficiency, and operational performance. *(Note: This applies to all aspects of aerospace physiology, human performance enhancement, AFI 11-290, Cockpit/Crew Resource Management (CRM), and AFMAN 11-210, Vol. I, Instrument Refresher Course, training conducted by aerospace physiology personnel.)*

12.2. Responsibilities:

12.2.1. Biomedical Science Corps (BSC) Chief of Aerospace Physiology is responsible for the USAF Aerospace Physiology Curriculum and Training Standards Program (hereafter referred to as Curriculum and Training Standards Program). The BSC Chief also appoints a Curriculum and Training Standards Program Coordinator, directs the frequency of evaluation (normally biennially) and provides program funding.

12.2.2. Curriculum and Training Standards Program Coordinator is responsible for managing the Curriculum and Training Standards Program to include scheduling evaluators, allocating TDY funds, and providing program status reports to the BSC Chief of Aerospace Physiology. Also the Curriculum and Training Standards Program Coordinator is responsible for developing, maintaining, and distributing the Curriculum and Training Standards Program Evaluation Checklist.

12.2.3. MAJCOM/HPTT Coordinators for Aerospace Physiology are responsible for compliance and oversight of the Curriculum and Training Standards Program within their respective MAJCOM. Coordinators will track evaluation results, follow-up on required corrective actions, and provide status

reports to the BSC Chief of Aerospace Physiology. Coordinators may ask the BSC Chief of Aerospace Physiology for an out-of-cycle evaluation or a no-notice evaluation of an APTF or an HPTT.

12.2.4. APTF Commanders and the 9 PSPTS Commander will ensure compliance with the goals of the Curriculum and Training Standards Program. Commanders also have the following responsibilities.

12.2.4.1. Commanders ensure instructor evaluations done on instructors teaching standardized curriculum subjects are completed at least annually on each instructor for the purposes of the Curriculum and Training Standards Program and that the evaluations are documented on a comprehensive instructor evaluation form; examples, AETC Form 281 (Instructor Evaluation Checklist), AETC Form 620 (Academic Instructor Monitoring Checklist), or comparable form. On each standardized curriculum instructor evaluation completed, a specific comment must be made as to the instructor's compliance with standardized curriculum objectives for that subject. Note: The Curriculum and Training Standards Program compliments but does not replace any other regulatory requirements for initial subject area evaluations/certifications of a new instructor or a requirement for more frequent evaluations.

12.2.4.2. Commanders will ensure that instructors not meeting the objectives of the standardized curriculum are de-certified from teaching standardized curriculum courses. Commanders will tailor and document the re-certification process specific to the individual instructors needs. The commander will maintain re-certification documentation in the individual's instructor folder.

12.2.4.3. Commanders will ensure Course Change Requests (CCRs) are submitted to the Curriculum and Training Standards Program Coordinator when recommending changes in course objectives, presenting for adoption new ideas in curriculum presentation, noting curriculum deficiencies, or making curriculum corrections. Do not accumulate CCRs to send in as a group before the yearly curriculum review, send in CCRs when they are generated. Maintain copies of submitted CCR's until the next standardized curriculum update is received from the Curriculum and Training Standards Program Coordinator.

12.2.4.4. Commanders will forward requests for copies of AFI 11-403 standardized courseware and training materials from outside the AF Aerospace Physiology field to the BSC Chief of Aerospace Physiology for release authorization.

12.2.4.5. Commanders collect data on the customer (instructor) satisfaction survey and the refresher course curriculum survey for annual submission to Curriculum and Training Standards Program Coordinator. Data should arrive no later than 31 January. Commanders should review and summarize local data for regular presentation at unit instructor continuation training.

12.2.4.6. Commanders will ensure that training is conducted for APTF instructors, appropriate to their subject area qualifications, on changes adopted into the standardized curriculum.

12.2.4.7. Commanders will conduct and document regular instructor meetings addressing the standardized curriculum changes, local improvements, instructional techniques, etc (maintain read file for non-attendees).

12.2.4.8. Commander will maintain Curriculum and Training Standards Program Checklist results (*Note: Both local and outside evaluations use the same checklist as provided by the Curriculum and Training Standards Program Coordinator*).

12.2.5. HPTT officers not assigned to an APTF will ensure compliance with the goals of the Curriculum and Training Standards Program. HPTT officers not assigned to an APTF also have the following responsibilities.

12.2.5.1. HPTT officers, in conference with their Command Coordinator, will review and document, at least annually, how they are meeting the objectives of the Curriculum and Training Program.

12.2.5.2. HPTT personnel not assigned to an APTF who teach standardized curriculum subjects may extend the instructor evaluation requirement from one to every two years. The enlisted member of the team or a local formal training instructor may evaluate the HPTT officer for the purposes of the Curriculum and Training Standards Program. Use a comprehensive instructor evaluation form; examples, AETC Form 281 (Instructor Evaluation Checklist), AETC Form 620 (Academic Instructor Monitoring Checklist), or comparable form. On each standardized curriculum instructor evaluation completed, a specific comment must be made as to the instructor's compliance with standardized curriculum objectives for that subject. Note: The Curriculum and Training Standards Program compliments but does not replace any other regulatory requirements for initial subject area evaluations/certifications of a new instructor or a requirement for more frequent evaluations.

12.2.5.3. HPTT personnel will ensure Course Change Requests (CCRs) are submitted to the Curriculum and Training Standards Program Coordinator when recommending changes in course objectives, presenting for adoption new ideas in curriculum presentation, noting curriculum deficiencies, or making curriculum corrections. Do not accumulate CCRs to send in as a group before the yearly curriculum review, send in CCRs when they are generated. Maintain copies of submitted CCR's until the next standardized curriculum update is received from the Curriculum and Training Standards Program Coordinator.

12.2.5.4. HPTT personnel will forward requests for copies of AFI 11-403 standardized courseware and training materials from outside the AF Aerospace Physiology field to the BSC Chief of Aerospace Physiology for release authorization.

12.2.6. USAFSAM conducts and funds an annual Utilization & Training Workshop. Select MAJCOM representatives will attend this meeting to update standardized courseware. Current AF/XOOT operational focus, initiatives and needs will drive aerospace physiology courseware development, modification and presentation.

12.2.6.1. One officer or one enlisted member will perform Stan/Eval inspections unless USAFSAM/FP determines the need for more than one person. Inspectors are responsible for inspection, evaluation, and outbrief of designated Medical Group personnel (see paragraph 12.7.). Inspectors will document the APTF evaluation and forward a copy to the respective MAJCOM Coordinator and USAFSAM/FP following the outbrief.

12.3. Types of Evaluations:

12.3.1. Annual Curriculum and Training Standards Program Evaluation. Locally evaluates all APTFs annually using the Curriculum and Training Standards Program Checklist to ensure compliance with all facets of the standardized training program. This evaluation is the responsibility of each APTF unit commander and will be conducted within 60 days of assignment and at least annually thereafter.

12.3.2. Annual Instructor Evaluation. All APTF instructors will be evaluated at least annually (see paragraph 12.2.4.1.). The APTF commander is responsible for these evaluations. Evaluations will occur not later than 13 calendar months from the last evaluation for instructors currently teaching standardized curriculum. Previously qualified standardized curriculum instructors who are returning to teaching of standardized curriculum will be evaluated on one or more of the standardized curriculum hours as determined by the APTF commander.

12.3.3. Directed Curriculum and Training Standards Program Evaluation. One aerospace physiology officer and one aerospace physiology enlisted member, both from outside the inspected APTF, will perform AFMOA/MAJCOM Directed Curriculum and Training Standards Program Evaluations. These evaluations supplement the Annual Curriculum and Training Standards Program Evaluations and will be conducted on a biennial basis or as directed by AFMOA or MAJCOM. Inspectors are responsible for assessing the APTFs' Curriculum and Training Standards Program and for the outbrief of designated Medical Group personnel (see paragraph 12.6.). The Curriculum and Training Standards Program evaluator will review local evaluations and may reevaluate any instructor at the evaluator's discretion. Inspectors will document the APTF evaluation and forward a copy to the respective MAJCOM Coordinator and the Curriculum and Training Standards Program Coordinator following the outbrief.

12.4. Scheduling of Directed Curriculum and Training Standards Program Evaluations.

12.4.1. Curriculum and Training Standards Program coordinator will work with the BSC Chief of Aerospace Physiology and MAJCOM Coordinators to establish evaluation dates for APTFs. On-site inspections of an HPTT location will be conducted as requested by the MAJCOM Coordinator and if approved by the BSC Chief of Aerospace Physiology.

12.4.2. Curriculum and Training Standards Program coordinator will provide fund cites and assign inspectors. The duration of evaluations should not exceed 3 training days.

12.5. Reporting Criteria for Directed Curriculum and Training Standards Program Evaluations.

12.5.1. Follow the grading instructions on the "Curriculum and Training Standards Program Checklist." A copy of this checklist is available on the USAFSAM Aerospace Physiology web site. A hard copy may also be requested from the Curriculum and Training Standards Program Coordinator.

12.5.2. The evaluator's report will begin with an overall evaluation summary that may be as short as one paragraph, but no longer than one page. Use one of the statements provided with the checklist to begin the evaluation summary. Next, the report body will list and explain checklist discrepancies; each discrepancy will be followed by a recommendation. There is no limit to the number of pages in the report body. Additional information may be included in the overall assessment to highlight the inspector's view on what was discovered (i.e. outstanding individual efforts, items to benchmark, or areas of concern). **DO NOT** attach worksheets or the Curriculum and Training Standards Program checklist to the final report.

12.6. Outbrief for Directed Curriculum and Training Standards Program Evaluations. When a Directed Curriculum and Training Standards Program Evaluation is conducted the Curriculum and Training Standards Program evaluator will conduct a formal outbrief with the APTF commander and APTF Superintendent and, as appropriate or requested, to the Medical Squadron Commander, and the Medical Group Commander. Outbrief preparation involves data collection, grading, reference materials, required

follow-up actions, and preparation of any Standards Program evaluation reports. The inspectors must cover performance and compliance with standardized objectives in detail.

12.7. Administration of Directed Standardization Program Evaluations. Inspectors will assemble their report according to the instructions in [12.5.2](#). Copies of the report will be left with the APTF commander and forwarded to Curriculum and Training Standards Program coordinator. APTF commanders will then have 30 days to file a report to their MAJCOM Coordinator outlining corrective actions.

PAUL K. CARLTON, JR., Lt General, USAF, MC, CFS
Surgeon General

Attachment 1**GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

AFPD 11-4, *Aviation Service*

AFI 11-202, Vol 1, *Aircrew Training*

AFI 11-404, *Centrifuge Training for High-G Aircrew*

AFI 11-409, *High Altitude Airdrop Mission Support Program*

AFI 48-101, *Aerospace Medical Program*

AFI 48-123, *Medical Examination and Medical Standards*

AFMAN 37-139, *Records Disposition Schedule*

AFPAM 11-419, *G Awareness for Aircrew*

Air Standard 61/101/3, *Aviation Medicine/Physiological Training of Aircrew*

Air Standard 61/117/1, *Aviation Medicine/Physiological Training of Aircrew in Spatial Disorientation*

NATO STANAG 3114, *Aeromedical Training of Flight Personnel*

NATO STANAG 3473, *Temporary Flying Restrictions Due to Exogenous Factors Affecting Aircrew Efficiency*

Abbreviations and Acronyms

ACC—Air Combat Command

AFB—Air Force Base

AFMOA—Air Force Medical Operations Agency

AFPC—Air Force Personnel Center

AFSC—Air Force Specialty Code

APTF—Aerospace Physiology Training Flight

BSC—Biomedical Sciences Corps

CAP—Civil Air Patrol

CCB—Configuration Control Board

CONUS—Continental United States

DoD—Department of Defense

DNIF—Duties Not Including Flying

ECG—Electrocardiogram

FAA—Federal Aviation Administration

FL—Flight Level
FS—Flight Surgeon
G LOC—G-Induced Loss of Consciousness
HAAMS—High Altitude Airdrop Mission Support
HAHO—High-Altitude High-Opening parachute technique
HALO—High-Altitude Low-Opening parachute technique
HAP—High Altitude Parachutist
HELO—Helicopter Refresher Training
HQ—Headquarters
JA/ATT—Joint Airborne/Air Transportability Training
MAJCOM—Major Command
MOU—Memorandum of Understanding
MSL—Mean Sea Level
NATO—North Atlantic Treaty Organization
NCOIC—Noncommissioned Officer in Charge
NVG—Night Vision Goggles
PACAF—Pacific Air Force
PCS—Permanent Change of Station
PSPTS—Physiological Support Squadron
PSYOP—Psychological Operations
PTC—Physiological Training Center
RAF—Royal Air Force
SA—Situational Awareness
SAAM—Special Assignment Airlift Mission
SCUBA—Self Contained Underwater Breathing Apparatus
SDO—Spatial Disorientation
SGO—Surgeon General Operations
SGOA—Surgeon General Operations Administration
STANAG—Standardization Agreement
TARF—Trainer, Attack, Reconnaissance, Fighter
TDY—Temporary Duty
TTB—Tanker, Transport, Bomber

UK—United Kingdom

USAF—United States Air Force

USAFE—United States Air Forces in Europe

Terms

G—Any force that produces an acceleration of 32.2 FPS (FPS = Feet Per Second), which is equivalent to the acceleration produced by earth's gravity

G_z—G forces in an up-down direction. Positive G_z indicates a force felt from head to toe. Negative G_z indicates a force felt toe to head

N₂—Nitrogen

O₂—Oxygen

Attachment 2

TYPE 1 HYPOBARIC CHAMBER FLIGHT (RAPID DECOMPRESSION)

A2.1. Type 1 Hypobaric Chamber Flight Goals. Designed to give Original trainees practical experience in applying the techniques and principles learned in the classroom to an accidental loss of cabin pressure. Additional objectives include:

- A2.1.1. Understanding pressurization schedules.
- A2.1.2. Selecting the advantages and disadvantages of pressurization systems.
- A2.1.3. Identifying factors that control the rate of decompression.
- A2.1.4. Determining the physical indications and physiological effects of a rapid decompression.
- A2.1.5. Enhancing trainees' confidence in their ability to effectively function in the event of aircraft decompression.
- A2.1.6. Identify the oxygen equipment emergency procedures following a rapid decompression.

NOTE: Additional objectives may be included based on MAJCOM requirements.

A2.2. Preflight Briefing. The instructor tells the trainees the purpose and the procedures of the flight. The chamber flight should not exceed 15 minutes. All chamber time should be used for training activities. The instructor explains why, in pressurized aircraft, the oxygen is regulated with the setting on "Normal" unless conditions of the flight dictate the use of 100-percent oxygen.

A2.3. Simulated Flight in Low-Pressure Chamber Procedures (Time in Minutes--8-10 Minutes Total):

- A2.3.1. During mask fitting, preflight check of oxygen equipment, and intercommunication check, have trainees don oxygen masks with regulator set at "100-percent oxygen."
- A2.3.2. During the ear and sinus check, ascend 5,000 feet and descend to ground level at a rate not to exceed 5,000 feet per minute. (Ear and sinus check is normally completed as a large group in the main chamber.) Students and inside observers exit chamber following ear and sinus check. Divide students into appropriate groups in preparation for the rapid decompression flights.
- A2.3.3. Set the main chamber at the altitude determined to achieve a 4.5 psi rapid decompression for your field elevation while the inside observer seats the students in the lock compartment.
- A2.3.4. The inside observer instructs the students to preflight their oxygen equipment and follows with a communication check: student's name and number.
- A2.3.5. If possible, the students should wear the same type of mask they will use during aircraft flight and should wear the masks as they do during routine flight. Those that fly without a mask should not have the mask connected before the rapid decompression.
- A2.3.6. Inside observer instructs the lock operator to ascend to 500 feet above field elevation or until a good door seal is achieved. Inside observer discusses indications of a rapid decompression and proper rapid decompression recovery procedures.
- A2.3.7. Inside observer signals the lock operator to fire the rapid decompression.

A2.3.8. Lock observer monitors student recovery procedures and corrects if necessary, then directs lock operator to descend to ground level.

A2.3.9. Inside observer reviews procedures for preventing/treating ear and sinus blocks and reviews effects of decompression.

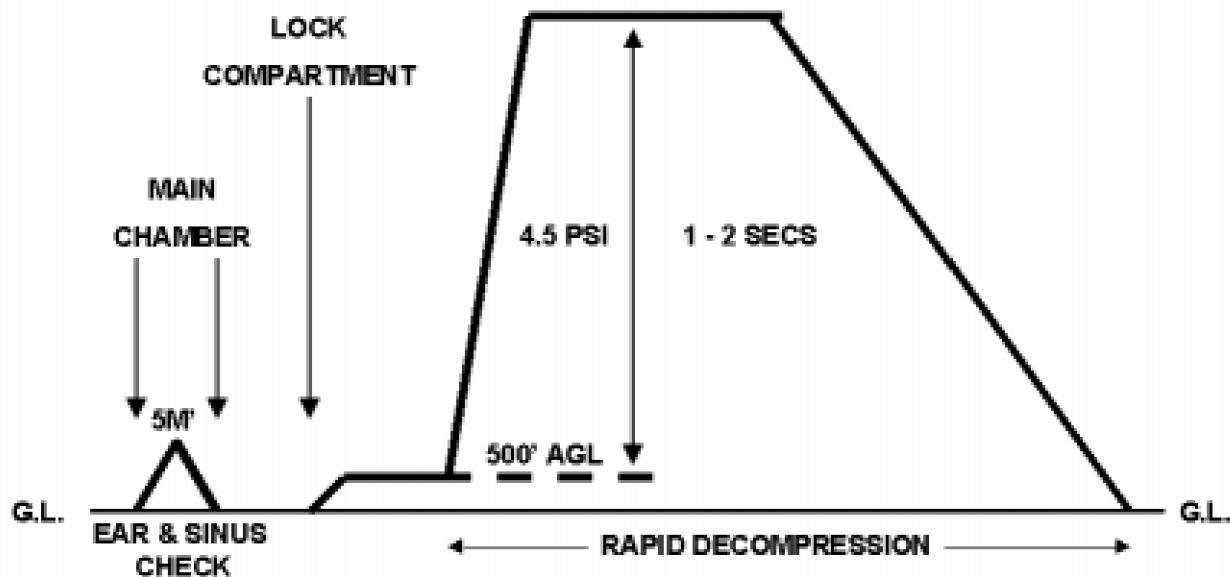
A2.3.10. At 10,000 feet, inside observer directs students to remove masks.

A2.3.11. Review flight with trainees.

A2.4. Postflight Briefing. Review the chamber flight to emphasize learning outcomes. Give the trainees instructions to follow in case they experience any type of delayed reactions. Brief them on restrictions following chamber flights (see paragraph 7.2.).

Figure A2.1. Type 1 Hypobaric Chamber Flight (Rapid Decompression).

TYPE 1 HYPOBARIC CHAMBER FLIGHT (RAPID DECOMPRESSION)



Attachment 3

TYPE 2 HYPOBARIC CHAMBER FLIGHT

A3.1. Type 2 Hypobaric Chamber Flight Goals. Designed to acquaint Original trainees with the overall effects of barometric pressure change and to permit them to practice the principles and techniques learned in the classroom in the low-pressure flight environment. Specific training objectives include trainee experience in:

- A3.1.1. The mechanical effects of pressure change (ear, sinus, and gas expansion problems).
- A3.1.2. Positive pressure breathing resulting from the loss of cabin pressure in a low-pressure environment.
- A3.1.3. Hypoxia recognition and treatment in self and others.
- A3.1.4. Proper oxygen equipment discipline in a low-pressure environment.
- A3.1.5. In-flight checks of oxygen equipment in a low-pressure environment.
- A3.1.6. Use of the emergency oxygen system and portable oxygen equipment.
- A3.1.7. Prevention, recognition, and treatment of hyperventilation during various flight conditions.
- A3.1.8. Visual problems resulting from decreased oxygen during night flying conditions.
- A3.1.9. Instilling and enhancing confidence in aircrew life support oxygen equipment.

NOTE: Additional objectives may be included based on MAJCOM, mission, or aircraft type requirement.

A3.2. Preflight Briefing. The instructor tells the trainees the purpose and the procedures of the flight. The chamber flight should not exceed 1 hour. All chamber time should be used for training activities. Instructor explains the need to perform an ear and sinus check before performing the main flight. The instructor explains why, in pressurized aircraft, the oxygen is regulated with the setting on "Normal" unless conditions of the flight dictate the use of 100-percent oxygen.

A3.3. Simulated Flight In Low-Pressure Chamber Procedures (Time in Minutes--60 Minutes Total):

- A3.3.1. During mask fitting, preflight check of oxygen equipment, and intercommunication check, trainees don oxygen mask with regulator set at "100-percent oxygen."
- A3.3.2. During ear and sinus check, ascend 5,000 feet and descend to ground level at a rate not to exceed 5,000 feet per minute.
- A3.3.3. Ensure that 30 minutes of denitrogenation have been completed before beginning ascent to peak altitude.
- A3.3.4. During ascent to FL350, discuss decompression phenomena using training aids to demonstrate mechanisms. Demonstrate and practice using oxygen regulators. Practice pressure breathing.
- A3.3.5. Make a rapid descent from FL350 to FL250. At FL250, pair off trainees and have them alternately experience symptoms of hypoxia within limits of useful consciousness. Resume oxygen and check all trainees.

A3.3.6. During descent to FL180, have trainees remove masks at FL220 and experience mild hypoxia.

A3.3.7. At FL180, use visual test cards to demonstrate effect of hypoxia on night visual acuity. Once demonstration is complete, resume oxygen and check all trainees.

A3.3.8. Descend to 10,000 feet while demonstrating low pressure and high pressure emergency oxygen systems.

A3.3.9. Discuss the need for ventilating middle ears after flights using oxygen. Review problems of rapid decompression.

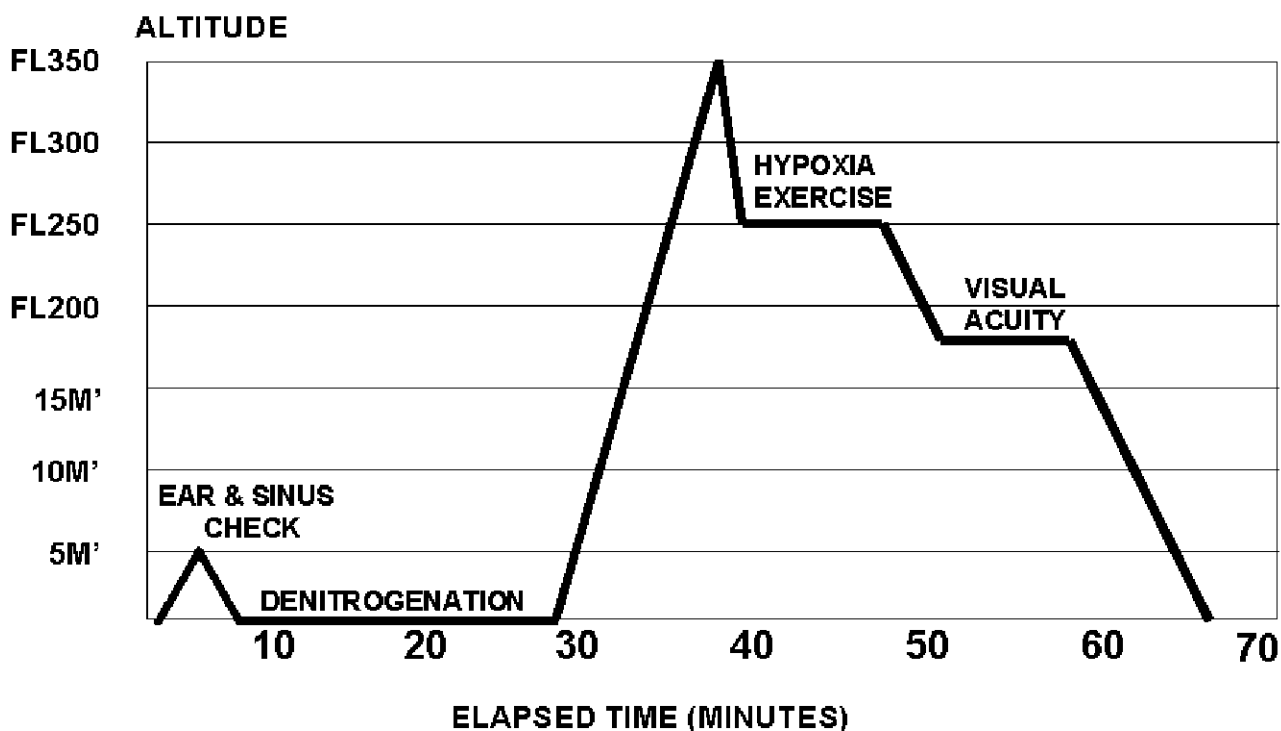
A3.3.10. At ground level, demonstrate the use/recharging of the portable oxygen bottle and potential hazards associated with its use and recharging.

A3.3.11. Review flight and quiz trainees.

A3.4. Postflight Briefing. Review the chamber flight to emphasize learning outcomes. Give the trainees instructions to follow in case they experience any type of delayed reactions. Brief them on restrictions following chamber flights (see paragraph 7.2.).

Figure A3.1. Type 2 Hypobaric Chamber Flight.

TYPE 2 HYPOBARIC CHAMBER FLIGHT



Attachment 4

TYPE 3 HYPOBARIC CHAMBER FLIGHT

A4.1. Type 3 Hypobaric Chamber Flight Goals. Designed to acquaint HAP Initial trainees with the overall effects of barometric pressure change and to permit them to practice the principles and techniques learned in the classroom in the low-pressure flight environment. Specific training objectives include trainee experience in:

- A4.1.1. The mechanical effects of pressure change (ear, sinus, and gas expansion problems).
- A4.1.2. Applying the techniques and principles learned in the classroom to an accidental loss of cabin pressure.
- A4.1.3. Recognition of the loss of cabin pressurization, factors affecting the severity of the decompression, the physical and physiological responses present, and the proper response to these occurrences.
- A4.1.4. Hypoxia recognition and treatment in self and others during decompression.
- A4.1.5. Proper oxygen equipment discipline in a low-pressure environment.
- A4.1.6. In-flight checks of oxygen equipment in a low-pressure environment.
- A4.1.7. Use of the parachutists' oxygen equipment or portable oxygen equipment.
- A4.1.8. Prevention, recognition, and treatment of hyperventilation during various flight conditions.
- A4.1.9. Visual problems resulting from decreased oxygen during night flying conditions.
- A4.1.10. Instilling, sustaining, and enhancing confidence in aircrew life support oxygen equipment.

NOTE: Additional objectives may be included based on MAJCOM, mission, or aircraft type requirements.

A4.2. Preflight Briefing. Same as Type 2 Flight (see paragraph [A3.2.](#)).

A4.3. Simulated Flight in Low-Pressure Chamber Procedures (Time in Minutes--60 Minutes Total):

- A4.3.1. During mask fitting, preflight check of oxygen equipment and intercommunication check, trainees don oxygen mask with oxygen system configured to "100-percent oxygen." HAP Initial trainees may use their parachutist oxygen equipment if it is compatible with the chamber system and this flight profile.
- A4.3.2. During ear and sinus check, ascend 5,000 feet and descend to ground level at a rate not to exceed 5,000 feet per minute.
- A4.3.3. Ensure that 30 minutes of denitrogenation have been completed before beginning ascent to peak altitude. (Show Military Freefall Emergency Procedures Video - 24 minutes).
- A4.3.4. During ascent to FL350, discuss decompression phenomena using training aids to demonstrate mechanisms. Demonstrate and practice using oxygen regulators.
- A4.3.5. Trainees make a rapid descent (10,000 to 12,000 feet per minute) from FL350 to 8,000 ft.

A4.3.6. At 8,000 feet, all trainees remove oxygen masks and a maximum ascent rate (open all knife and wheel valves) to FL250 is begun. During ascent and subsequent time at FL250, trainees experience hypoxia within the limits of useful consciousness. Resume oxygen and check all trainees.

A4.3.7. During descent to FL180, have trainees remove masks at FL220 and experience mild hypoxia.

A4.3.8. At FL180, use visual test cards to demonstrate effects of hypoxia on night visual acuity.

A4.3.9. Descend to 10,000 feet while practicing use of parachutists' oxygen equipment as available. Descend to ground level while breathing air.

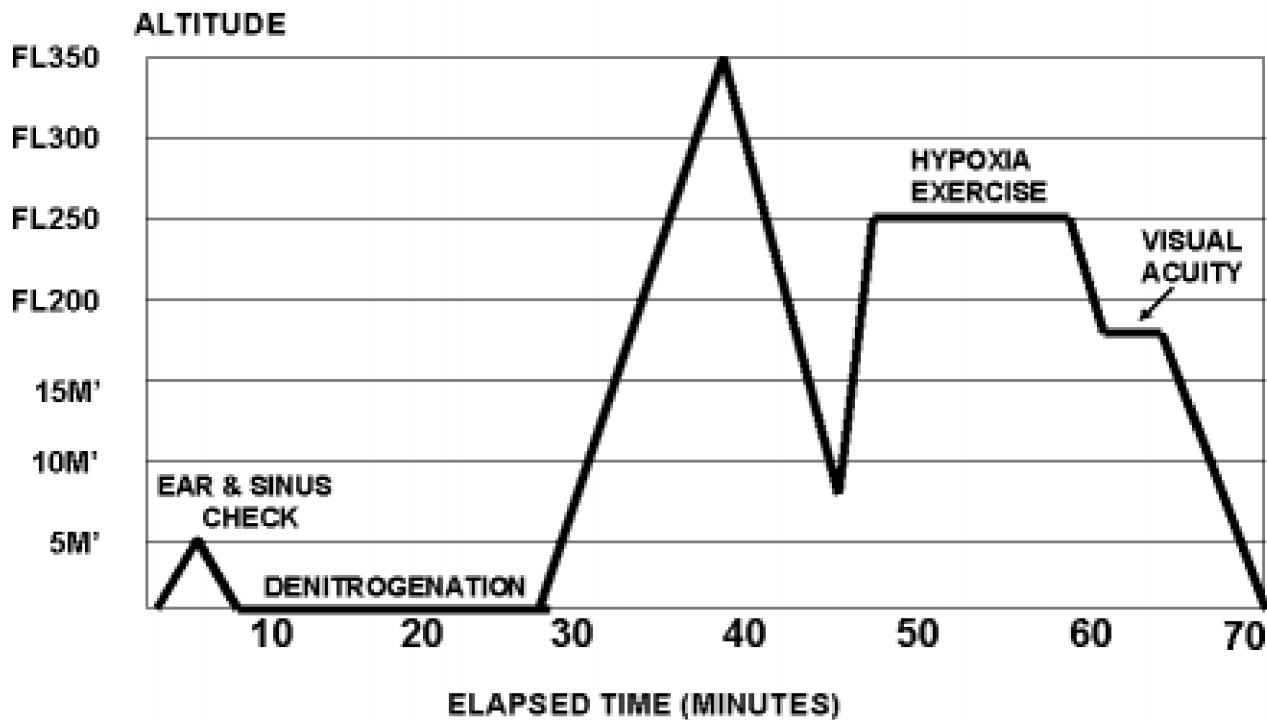
A4.3.10. Practice using portable oxygen equipment as appropriate during the chamber flight. Discuss the need for ventilating middle ears after flights using oxygen. Discuss problems of rapid decompression.

A4.3.11. Review flight and quiz trainees.

A4.4. Postflight Briefing. Same as Type 2 Flight (see paragraph [A3.4.](#)).

Figure A4.1. Type 3 Hypobaric Chamber Flight.

TYPE 3 HYPOBARIC CHAMBER FLIGHT



Attachment 5

TYPE 4 HYPOBARIC CHAMBER FLIGHT

A5.1. Type 4 Hypobaric Chamber Flight Goals. Designed to acquaint Passenger trainees and reacquaint TARF, TTB, and HAP refresher trainees with the overall effects of barometric pressure change and permit them to practice the principles and techniques learned in the classroom in the low-pressure flight environment. Specific training objectives include trainee experience in:

- A5.1.1. The mechanical effects of pressure change (ear, sinus and gas expansion problems).
- A5.1.2. Positive pressure breathing resulting from the loss of cabin pressure in a low-pressure environment.
- A5.1.3. Applying the techniques and principles learned in the classroom to an accidental loss of cabin pressure.
- A5.1.4. Recognition of the loss of cabin pressurization, factors affecting the severity of the decompression, the physical and physiological responses present, and the proper response to these occurrences.
- A5.1.5. Hypoxia recognition and treatment in self and others during rapid decompression.
- A5.1.6. Proper oxygen equipment discipline in a low-pressure environment.
- A5.1.7. In-flight checks of oxygen equipment in a low-pressure environment.
- A5.1.8. Use of the emergency oxygen system and portable oxygen equipment.
- A5.1.9. Prevention, recognition, and treatment of hyperventilation during various flight conditions.
- A5.1.10. Visual problems resulting from decreased oxygen during night flying conditions.
- A5.1.11. Installing, sustaining, and enhancing confidence in aircrew life support oxygen equipment.

NOTE: You may include additional objectives based on MAJCOM, mission, or aircraft type requirements.

A5.2. Preflight Briefing. The instructor tells the trainees the purpose and procedures of the flight. The chamber flight, including prebreathing, should not exceed 1 hour. You should use all the chamber time for training activities. Use one hundred percent oxygen up to 8,000 feet where the masks are removed for the rapid ascent to FL250 and the hypoxia demonstration. The instructor explains why, in pressurized aircraft, the oxygen is regulated with the setting on "normal" unless conditions of the flight dictate the use of 100-percent oxygen.

A5.3. Simulated Flight in Low-Pressure Chamber Procedures (Time in Minutes - 60 Minutes Total):

- A5.3.1. During mask fitting, preflight check of oxygen equipment, and intercommunication check, have trainees don oxygen masks with regulator set at "100-percent oxygen."
- A5.3.2. Ascent and descent rates are as follows: ear and sinus check at 2,500 feet per minute; ascent to 8,000 feet at 5,000 feet per minute; 8,000 feet to FL250 at maximum vacuum; descent from FL250 to FL180 at 5,000 feet per minute; descent from FL180 feet to ground level at 2,500 feet per minute.

A5.3.3. During ear and sinus check, ascend to 5,000 feet above ground level and return.

A5.3.4. Ensure that 30 minutes of denitrogenation have been completed before reaching 8,000 feet in preparation for the hypoxia demonstration. During pre-breathing period, have Passenger, HAP, TARF and TTB trainees experience pressure breathing by using the narrow panel regulator in the EMERGENCY and the TEST MASK positions or the A-14 oxygen regulators when available.

A5.3.5. During ascent to 8,000 feet and on to FL250 discuss decompression phenomena using training aids to demonstrate mechanisms. Demonstrate and practice using the oxygen regulators.

A5.3.6. At 8,000 feet the TTB trainees desiring to use a quick don oxygen mask system will make the transition to this system if available.

A5.3.7. After the oxygen systems have been switched, and the communication with the trainees is rechecked, all trainees will drop their masks as the chamber is taken at maximum vacuum to FL250 feet. During ascent and subsequent time at FL250, trainees experience hypoxia within the limits of useful consciousness. Trainees resume breathing oxygen and are confirmed to be fully recovered before starting descent.

A5.3.8. During descent to FL180, have trainees remove masks at FL220 and experience mild hypoxia.

A5.3.9. At 18,000 feet, use visual aids to demonstrate effects of hypoxia on night visual acuity.

A5.3.10. Descend to 10,000 feet while breathing normal oxygen. After descent below 10,000 feet, oxygen masks may be disconnected and descent continued to ground level breathing air.

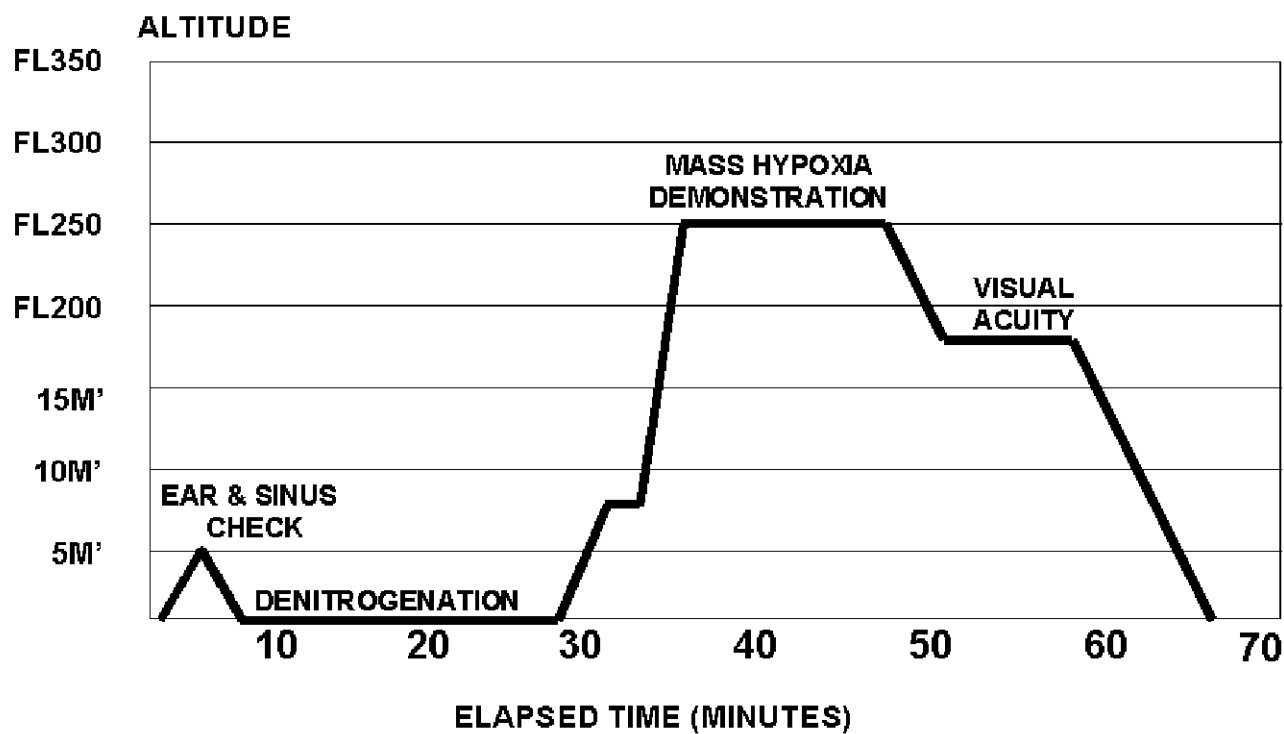
A5.3.11. Practice using emergency and/or portable oxygen equipment as appropriate during the chamber flight. If pressure breathing was not demonstrated earlier, use portable oxygen equipment to practice breathing techniques using higher breathing pressures and review walk-around cylinder recharging. Discuss the need for ventilating middle ears after flights using oxygen. Discuss problems of rapid decompression.

A5.3.12. Review flight and answer questions.

A5.4. Postflight Briefing. Same as Type 2 Flight (see paragraph [A3.4.](#)).

Figure A5.1. Type 4 Hypobaric Chamber Flight.

TYPE 4 HYPOBARIC CHAMBER FLIGHT



Attachment 6

TYPE 5 HYPOBARIC CHAMBER FLIGHT

A6.1. Type 5 Hypobaric Chamber Flight Goals. Designed to reacquaint HELO refresher trainees with the overall effects of barometric pressure change and permit them to practice the principles and techniques learned in the classroom in the low-pressure flight environment. Specific training objectives include trainee experience in:

- A6.1.1. The mechanical effects of pressure change (ear, sinus and gas expansion problems).
- A6.1.2. Applying the techniques and principles learned in the classroom to flying in unpressurized conditions.
- A6.1.3. Hypoxia recognition and treatment in self and others during decompression.
- A6.1.4. Use of the emergency oxygen system and portable oxygen equipment.
- A6.1.5. Prevention, recognition, and treatment of hyperventilation during various flight conditions.
- A6.1.6. Visual problems resulting from decreased oxygen during night flying conditions.
- A6.1.7. Installing, sustaining, and enhancing confidence in aircrew life support oxygen equipment.

NOTE: You may include additional objectives based on MAJCOM, mission, or aircraft type requirements.

A6.2. Preflight Briefing. The instructor tells the trainees the purpose and procedures of the flight. The chamber flight should not exceed 1 hour. You should use all the chamber time for training activities. Use ambient air up to 17,500 feet. The entire ascent time is used to facilitate the hypoxia demonstration. The instructor explains the rationale behind the time and altitude limitations imposed by AFI 11-202, Vol 3, *General Flight Rules*, for unpressurized helicopter operations.

A6.3. Simulated Flight in Low-Pressure Chamber Procedures (Time in Minutes-60 Minutes Total):

- A6.3.1. During mask fitting, preflight check of oxygen equipment, and intercommunication check, have trainees don oxygen masks with regulator set at "100-percent oxygen."
- A6.3.2. Ascent and descent rates are as follows: ear and sinus check at 2,500 feet per minute; ascent to 17,500 feet at 2,500 feet per minute; descent from 17,500 feet to ground level at 2,500 feet per minute.
- A6.3.3. During ear and sinus check, ascend to 5,000 feet above ground level and return.
- A6.3.4. During ascent to 17,500 feet discuss decompression phenomena using training aids to demonstrate mechanisms. Discuss differences in hypoxia symptoms for mild hypoxia versus severe hypoxia. Emphasize the insidious nature of mild hypoxia symptoms.
- A6.3.5. During ascent and subsequent time at 17,500 feet, trainees experience hypoxia within the limits of useful consciousness. At the 30 minutes after passing through 10,000 feet MSL, direct all trainees who have not already donned oxygen equipment and corrected for hypoxia to do so. Trainees resume breathing oxygen and are confirmed to be fully recovered before starting next demonstration.

A6.3.6. While remaining at 17,500 feet, have trainees remove masks and experience mild hypoxia in preparation for visual acuity demonstration.

A6.3.7. At 17,500 feet, use visual aids to demonstrate effects of hypoxia on night visual acuity.

A6.3.8. Descend to 10,000 feet while breathing normal oxygen. After descent below 10,000 feet, oxygen masks may be disconnected and descent continued to ground level breathing air.

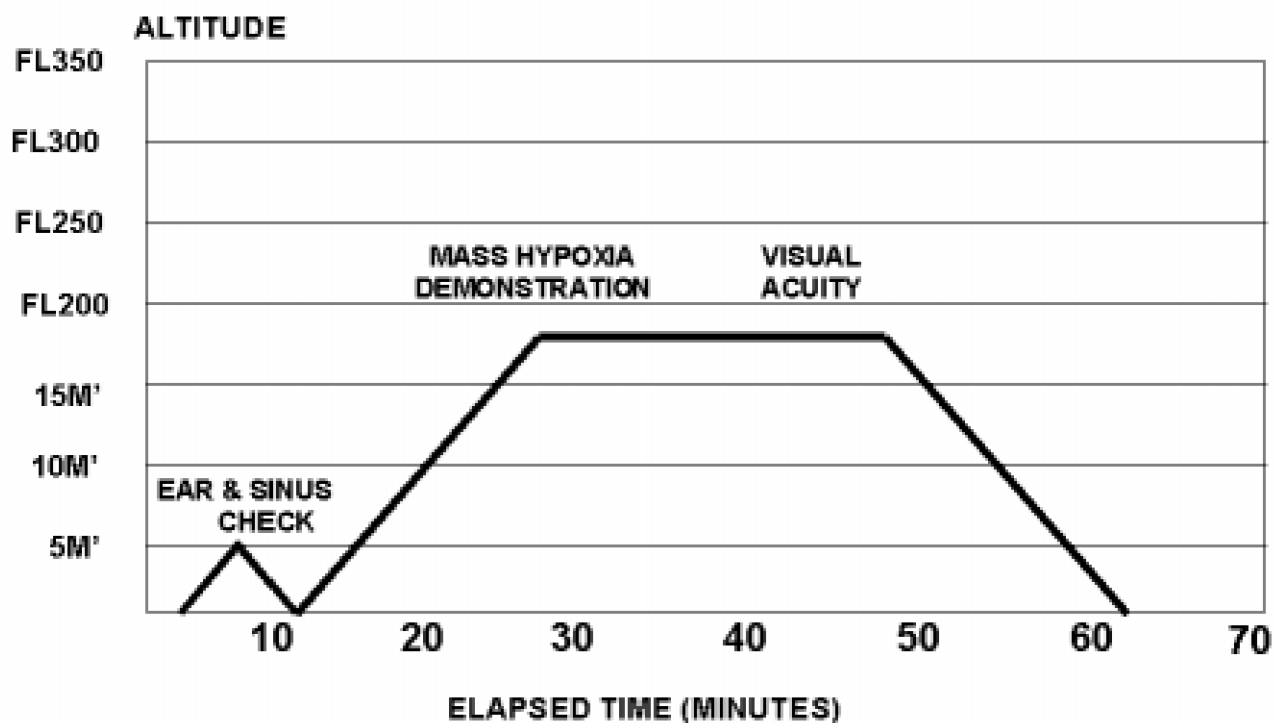
A6.3.9. Practice using emergency and/or portable oxygen equipment as appropriate during the chamber flight. Review walk-around cylinder recharging. Discuss the need for ventilating middle ears after flights using oxygen.

A6.3.10. Review flight and answer questions.

A6.4. Postflight Briefing. Same as Type 2 Flight (see paragraph [A3.4.](#)).

Figure A6.1. Type 5 Hypobaric Chamber Flight.

TYPE 5 HYPOBARIC CHAMBER FLIGHT



Attachment 7

AEROSPACE PHYSIOLOGY PROGRAM EQUIPMENT AND SUPPLY LISTING

ALLOWANCE SOURCE CODE 041

NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
1660000619860			Mask Constant Flow (Pass)	4	EA	\$13.37
1660000662078			Harness 4-Strap Bayonet	60	EA	\$4.67
1660000769662			Connection Assembly	60	EA	\$144.71
1660001721368			Mask, Oxygen	10	EA	\$890.12
1660001758170			Container & Strap Assembly	4	EA	\$7.52
1660001860276			Bayonet, Oxygen Mask	60	EA	\$9.07
1660001860277			Bayonet, Oxygen Mask	60	EA	\$10.57
1660003033193			Mask Constant Flow (Pass)	4	EA	\$4.86
1660003220863			Holder-Hanging Susp Assy	10	EA	\$4.44
1660003829434	1660004356833		Mask, Oxygen	4	EA	\$25.86
1660005162749			Mask, Oxygen Nose Type Med	2	EA	\$110.00
1660005266771			Indicator Oxygen Flow Blinker	0	EA	\$93.00
1660005474280			Regulator Oxygen	0	EA	\$76.37
1660007199372			Recharge Assy Oxygen Ptbl	30	EA	\$117.36
1660007399288			Reg Oxygen Demand Ptbl	0	EA	\$178.58
1660008103222			Mask, Oxygen	0	EA	\$239.55
1660008103223			Mask, Oxygen	0	EA	\$162.97
1660008103225			Mask, Oxygen	0	EA	\$104.03
1660008115259			Mask Oxygen Nose/Mouth RW	0	EA	\$79.85
1660009696515			Regulator Auto Cru-68A	0	EA	\$1,540.00
1660010460877			Fltr Assy Chem-Biol Oxygen	6	EA	\$61.09
1660010465718			Mask Assembly, Oxygen	4	EA	\$849.75
1660010506374			Hood Assembly, Chemi	6	EA	\$60.50
1660010528859			Mask Assembly, Chemi	6	EA	\$168.76
1660010528862			Tester, Filter Leaka	1	EA	\$26.19
1660010819157			Mask Oxygen Mouth/Nose	0	EA	\$118.11
1660013387129			CRU-98 Regulator, Oxygen, Diluter-Demand, G-Compensated	2	EA	\$6,281.47
1660013355854			CRU-94 Connector, Oxygen Mask	4	EA	\$299.90
1660013836734			CRU-93 Regulator, Oxygen, Diluter-Demand, G-Compensated	3	EA	\$473.53
1660013198969			MBU-20/P Mask, Oxygen Size: Large Wide	5	EA	\$1,256.00
1660013198968			MBU-20/P Mask, Oxygen Size: Med Wide	5	EA	\$1,060.47
1660013198967			MBU-20/P Mask, Oxy Size: Med Narrow	5	EA	\$893.24
1660013198966			MBU-20/P Mask, Oxy Size: Small Narrow	5	EA	\$1,037.75
1670003695444			Torso Harness PCU-15/P	8	EA	\$101.01
1670012622359			Parachute, Personnel	2	EA	\$976.00
1740000560513			Yoke Assy Filler Type	2	EA	\$192.59
4220008508655			Life Preserver Adult 10 in	15	EA	\$125.68
4240000222946			Protectors Aural	7	EA	\$5.05
4240001655026			Filter Element SE Mask	6	SE	\$20.12

NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
4310005591640			Mist Eliminator	1	EA	\$1,157.00
4820002818194			Valve Reg Fluid Pressure	1	EA	\$101.89
6140005573873			Battery Storage 24 Volt	2	EA	\$203.59
6515002998748			Airway Pharyn Rbr Child	2	EA	\$2.56
6515003002900			Airway Pharyn Lge Adult	2	EA	\$274.00
6515003406700			Hammer Reflex Test 7-8 in	2	EA	\$3.60
6515003691600			Spec SE Ear Gruber 4 Un	1	SE	\$19.60
6515005507199			Otoscope-Ophth SE Battery	2	SE	\$155.63
6515009354088	6515003742220		Stethoscope Comb Adult Sz	2	EA	\$15.22
6515010394884			Sphygmomanometer Aneroid	1	EA	\$33.14
6515010610662			Suct App Sur Port/Station	0	EA	\$249.12
6515010617812			Resusc Hand-Operated	1	EA	\$79.08
6515012042670			Suct App Surg Ptbl	1	EA	\$253.40
6515012786335	6515010929788		EKG Battery 120V 60 Hz	1	EA	\$1,093.95
6530007029240			Cabinet Med W-Narc Lok	1	EA	\$1,527.46
6530007065100			Light Floor Op-Exam 110W	3	EA	\$105.93
6530007828100			Jar Dress Glass W-Cap	1	EA	\$10.87
6530007837905	6530013807309		Litter Fld Alum Pole	1	EA	\$92.97
6530011159221			Bed Adjust Multi-Pos	1	EA	\$249.01
6625011392512			Multimr Dig AN/PSM-45	1	EA	\$130.00
6645001506526			Clock Aircraft Mech	4	EA	\$665.20
6645002248630			Clock Marine Mech 8-Day	3	EA	\$245.12
6680009824006	6685009824006		Gage Altitud Dial Indic	3	EA	\$44.73
6680011746276	6680009354242		Regulator Pres Med Gas Ap	1	EA	\$92.01
6685004124704			Gage Pres Dial Indicating	2	EA	\$1,527.08
6685005145776			Gage Press Dial Indic	2	EA	\$240.11
6685005277246			Gage Press Dial Indic Adj	30	EA	\$142.23
6685010450489			Gage Abs Press Dial Indic	2	EA	\$3,521.77
6695013264167LS			Test Set, Flight Ensemble Pressure Breathing Oxygen	2	EA	\$12,402.21
8120000993184	1660000993184		Cylinder Compressed Gas	45	EA	\$77.15
8120005152575	1660005152575		Cylinder, Compressed	22	EA	\$157.97
8120005368084	1660005368084		Cylinder Comp Oxy SZ1STY4	2	EA	\$478.33
8120005508484			Yoke-Adap Comp Gas Cyl SM	1	EA	\$17.08
8415000664371			Helmet Altitude Chamber	0	EA	\$30.00
8415002739664			Apron Construct Workers	2	EA	\$7.60
8415010403136			Liner, Coveralls, Che	12	EA	\$46.25
8415010403169			Socks Chem Prot Univ Sz	1	EA	\$0.05
8415011255348	8415010033436		Gloves Fireman's Nylon	2	PR	\$21.05
8475000608784			Helmet Flyer's Sz Sm	0	EA	\$50.00
8475010162852	1660004405553		Receiver, Mask, Helmet	120	EA	\$11.50
8475010403127			Helmet Flyers HGU-39/P Reg	6	EA	\$128.61
8475014432541			KMU-511/P Modification Kit, Helmet	5	KT	\$203.20
8475014432542			KMU-511/P Mod Kit, Helmet Sz: Med	5	KT	\$203.20
8475014432543			KMU-511/P Mod Kit, Helmet Sz: Large	5	KT	\$203.20
8475014432538			KMU-511/P Mod Kit, Helmet, Left Hand	NA	KT	\$203.20
8475013345755			KMU-511/P Mod Kit, Helmet Sz: X-Large	5	KT	\$203.20
8475013167750			CSU-17/P Vest, Anti-G Size: X-Large	6	EA	\$380.11
8475013169904			CSU-17/P Vest, Anti-G Size: Large	6	EA	\$368.25

NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
8475013167749			CSU-17/P Vest, Anti-G Size: Medium	6	EA	\$380.11
8475013167748			CSU-17/P Vest, Anti-G Size: Small	6	EA	\$366.25
8475010372009			CSU-13B/P Anti-G Cutaway Garment Sz: Large Long	8	EA	\$210.00
8475010372010			CSU-13B/P Anti-G Cutaway Garment Sz: Large Regular	8	EA	\$320.00
8475010372007			CSU-13B/P Anti-G Cutaway Garment Sz: Medium Long	8	EA	\$210.00
8475010372006			CSU-13B/P Anti-G Cutaway Garment Sz: Medium Regular	8	EA	\$274.00
8475010372011			CSU-13B/P Anti-G Cutaway Garment Sz: Small Long	8	EA	\$320.00
8475010372008			CSU-13B/P Anti-G Cutaway Garment Sz: Small Regular	8	EA	\$320.00
8475011288268			Helmet, Flyer's	40	EA	\$260.57
9905002867031			Mannequin Male Form	2	EA	\$390.00
1660011395691		7930031-9	98" 4-Pin Hose W/Regulator Assembly	18	EA	\$1,759.26
1660013703180		9220173	Regulator, Advance Breath (ABR-200)	16	EA	\$2,632.40
PENDING		4902-001-01	Oxygen Regulator, Test Set (ABR-2001)	1	EA	\$20,000.00
4820013692915		9020161	Oxygen Shut, Low Pressure	16	EA	\$1,194.76
1660013697877		8220006-5	Oxygen System, Portable 2 Person	2	EA	\$7,991.97
1660013708451		7920030-21	Oxygen System, Portable 6 Person	3	EA	\$17,044.79
6695013607677		8820061-1	Test Stand (Portable Oxygen Regulator)	1	EA	\$5,500.00
1660013710083		9080002	Transient Case, 2 Person	2	EA	\$1,283.82
1660013710082		9080001	Transient Case, 6 Person	3	EA	\$1,289.22
1660011719829		9320116-3	Twin-50 cu.in. Oxygen System w/19' Hose	16	EA	\$2,579.00
1660011141778		T80-3007-1	Oxygen Charging Assembly	4	EA	\$795.00
4720013709295		8130007-1	98: Hose w/4-Pin QD	4	EA	\$847.63
1660014261389		605100-0	Oxygen Console Asmb w/8-Man, 7-120" and 216" Hoses and Charging Assembly	2	EA	\$9,950.00
1660014261709		603400-2	Phaos Mask Assembly w/Comm (Long)	8	EA	\$1,321.00
1660013888183		603400-1	Phaos Mask Assembly w/Comm (Regular)	12	EA	\$1,321.00
		603400-0	Phaos Mask Assembly w/Comm (Short)	8	EA	\$1,321.00
1660014261718		603400-3	Phaos Mask Assembly w/Comm (X-Long)	4	EA	\$1,321.00
1660014261720		603100-0	Phaos Oxygen Supply System (Single 88 cu. In. Bottles)	16	EA	\$1,748.00
4920014328925		607000-0X-XXX	Phaos Test Stand Complete w/All Tooling and Fixtures	1	EA	\$45,000.00
166013697877			Oxygen System, Portable 2-Man		EA	\$8,206.89
1660011388623			Oxygen System, Portable Twin 53		EA	\$2,545.07
1670013697914			AR-2 Automatic Opening Device	6	EA	\$1,025.00
1670013062100			MC-4 Parachute	6	EA	\$5,181.00
1670013303282			Ripcords	10	EA	\$34.96
		IB131-6	Ultrasonic Cleaner (150 Watts)	1	EA	\$600.00
		H01RDO9AA3-	Motorola HT 1000 Portable Hand ELD Radio	4	EA	\$581.75
		BDN-6671A	VOX Interface	4	EA	\$225.55

NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
5965014153865		BDN-6641A	High Noise Level Ear Microphone	4	EA	\$160.55
		H-437	Rapid Compact Charger	4	EA	\$39.00
		TDN-9326	Chest Pack	4	EA	\$25.50
5965014063156		50-80358B28	Ear Tips (Cushions)	4	EA	\$45.05
5821000011888			Flares Marine MK-124 Mod 0	40	EA	\$42.01
1370004907362			GPS Equipment	1	EA	\$8,040.00
6540006030990			Night Vision Goggles	2	EA	\$5,000.00
4010LRR89323060			Parasail Ropes (600 ft)	4	EA	\$147.42
GAT00A013549			Portable Generator	1	EA	\$700.00
MB30812A22			Portable Weather Station	1	EA	\$500.00
6135010503193LS			Radio Beacon Set AN/URT-33B-1	2	EA	\$227.28
5820007825308LS			Radio Set AN/PRC 90-1	2	EA	\$2,000.00
8415003101133			Jacket, Flyers (Lg) Winter	1	EA	\$169.95
8145010101910			Jacket, Flyers (Lg) Summer	1	EA	\$161.95
		H-223	1,500 MAH Battery	4	EA	\$43.55
		H-150	Antenna, Full Range	4	EA	\$3.25
		H-477	Frequency Programming Option	4	EA	U/A
CENTRALLY PROCURED ITEMS LIST						
NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
1660001240417			Regulator, Oxygen Diluter	6	EA	\$3,339.92
1660004870108			Regulator, Oxygen Diluter	21	EA	\$1,636.12
1660007253330			Regulator, Oxygen Diluter	2	EA	\$489.30
1660009271996			Regulator, Oxygen Demand Portable	20	EA	\$1,078.64
1670007939854			Parasail Parachute	8	EA	\$663.90
3750005278049			Mower Lawn Power Rotary	1	EA	\$585.04
4120009238496			Air Conditioner, Pre	1	EA	\$3,717.16
4140005677773			Ventilating Unit Elect	1	EA	\$969.00
4220000711889			Life Raft, Inflat 7-man	1	EA	\$1,076.68
4220005633567			Life Raft, Inflatable	1	EA	\$2,004.38
4220010036763			Life Raft Insulated 1-man	2	EA	\$248.49
4310001463636	4310001157752	KT-850	Vacuum Pump Un Rotary	1	EA	\$16,760.47
4310004550778	4310001157753	KT-500	Vacuum Pump Un Rotary	1	EA	\$10,166.00
4310008117766			Compressor Un Recipro220V	1	EA	\$2,633.00
4310008905598			Compressor Un Recipro230V	1	EA	\$78,500.00
4920007914840			Tester Oxygen System Port	2	EA	\$746.00
4920011819622			Tester Leakage P7-02-002	1	EA	\$1,236.00
4920013211839	4920001288584		Tester Demand O2 Reg PBG	2	EA	\$14,000.00
6130004731203			Power Supply 28 DC Volts	1	EA	\$1,913.88
6610005300028	6610005301363		Indicator, Vertical Velocity, 6000 ft/min	1	EA	\$708.06
6610008792788			Altimeter, Pressure	10	EA	\$248,787.00
6625010079956			Oscilloscope Horiz & Vert	1	EA	\$2,500.00
6675002860602			Drafting Instr Set	1	SE	\$11.57
6685000645155			Gage Absolute Pressure	2	EA	\$1,653.15
6685008037701			Tester Flow Leakage	4	EA	\$885.00
6695004699311			Tester, Pyrometer An	2	EA	\$1,631.05
6695010970441			Tester, Oxygen Mask	2	EA	\$1,180.38
6920003002146			Training Aid Night Vision	1	EA	\$6,777.00
6930005416779	6930005317830		Trainer Ejection Seat	1	EA	\$11,000.00
5841006280106			Indicator, Vertical Velocity, 12,000 ft/min	1	EA	\$766.14

NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
6930007202724			Chamber Decomp Train 6 Man	1	EA	\$856,000.00
6930007202725	6930003276511		Chamber Decomp Train 20 Man	1	EA	\$856,000.00
6930007224058			Chamber Decomp Train 37 Man	1	EA	\$856,000.00
6930009719531			Chamber Compression 2 Man	1	EA	\$856,000.00
6930010279803			Trainer Spatial Disorient	1	EA	\$26,524.56
8475004773599			Ventilator Liq Oxygen	4	EA	\$2,912.99
8475010174473			Goggles Flyers Flashblind	1	EA	\$5,150.00
GOVERNMENT SERVICE ADMINISTRATION (GSA) CATALOG						
NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
3413008818277			Drilling Mach 5/16 in	1	EA	\$2,420.08
3439005420454			Soldering Iron Electric	1	EA	\$21.46
3439005420531			Soldering Torch Kit	1	EA	\$17.76
3439006186623			Soldering Gun	1	EA	\$29.68
3510004745945			Drying Tumbler Laundry	1	EA	\$246.98
3510008005087			Washing Machine	1	EA	\$91.00
3530008924629			Sewing Mach Indust 110V	1	EA	\$1,385.06
3655006140002			Truck Hand Oxygen	1	EA	\$1,300.00
4110008790006			Refrig Elec HH RHD	1	EA	\$228.40
4140008519319			Fan Circulating 115V 60 Hz	2	EA	\$33.65
4520005558696			Heater Space Elec 120V 60 Hz	2	EA	\$30.08
4720001419058			Tubing Nonmetallic	1	EA	\$3.88
4930002508038			Lub Gun HD 3 oz Cap	1	EA	\$7.79
5110001424999			Saw HD Crosscut 24 in	1	EA	\$8.44
5110001425015			Saw HD Rip 26 in Lg Blade	1	EA	\$8.25
5110001616909			Shears Str Trimmers 9 inch	1	EA	\$8.06
5110001800925			Punch Cut Dble Bow 0.75 in	1	EA	\$5.80
5110001801024			Miter Box/Saw Sz 26 in Lg	1	EA	\$10.00
5110001867107			Chisel Cold ½ in w Tip	1	EA	\$1.64
5110002224400			Cutter Glass Line Cut	1	EA	\$1.38
5110002247911			Plane Jack 14 in Sz	1	EA	\$31.35
5110002249348			Cutter Circle 1-5.5 in Diam	1	EA	\$11.68
5110002341927			Chisel Cold HD 4 in Lg	1	EA	\$1.31
5110002346537			File Hand B43 Flat 10 in	1	EA	\$2.12
5110002550420			Scissors Electricians	1	EA	\$5.97
5110002898659			Shears Metal Cut Hand 8 in	1	EA	\$8.93
5110002899657			Frame Hand Hacksaw	1	EA	\$5.98
5110002931958			Brace BT Ratcht 10 in Sweep	1	EA	\$45.27
5110002933410			Drill Push 8 Drill Points	1	EA	\$30.04
5110002933411			Drill Hand	1	EA	\$48.74
5110005372000			Knife Craftsman 1.5 in Lg	1	EA	\$3.58
5110005858428			Chisel, Butt, Woodwor	1	EA	\$4.77
5110005858429			Chisel, Butt, Woodwor	1	EA	\$5.00
5110005958229			Cutter Wire Rope HD Opr	1	EA	\$24.48
5110005958317			File Set Hand 14 PC	1	SE	\$31.46
5110005967164			Pliers Diagonal Cut 6 inch	1	EA	\$6.44
5110005969703			Shears Bent Trimmers 10 in	1	EA	\$12.00
5110006987966			Drill Set, Masonry, H	1	SE	\$159.50
5120000596711			Pliers Slip Joint 9.875 in	1	EA	\$10.53
5120000618541			Hammer HD Mach BP 18 oz	1	EA	\$8.28

NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
5120000812305			Wrench Set Socket 13P	1	SE	\$19.00
5120001800730			Wrench Jewelers	1	EA	\$1.09
5120001803491			Socket Wrench 1.75 in Lg	2	EA	\$0.73
5120001816785			Socket, Socket Wrenc	1	EA	\$10.92
5120001849403			Pliers	1	EA	\$11.29
5120001877124			Wrench Open End 5.375 in	2	EA	\$5.27
5120001877129			Wrench OE ¾-13/16 Fixed	1	EA	\$8.87
5120001877131			Wrench O/E 415 Double Head	2	EA	\$15.43
5120001877133			Wrench Open End 10.75 in	2	EA	\$52.76
5120001897924			Socket Wrench 1.5 in Lg	2	EA	\$2.46
5120001897927			Socket Wrench 168 Internal	2	EA	\$2.47
5120001897932			Socket Wrench 1.5 in Lg	2	EA	\$1.96
5120001897933			Socket Wrench 1.625 in Lg	2	EA	\$1.58
5120001897934			Socket Wrench 1.75 in Lg	2	EA	\$1.73
5120001897935			Socket Wrench 1.49 in Lg	2	EA	\$2.15
5120001897946			Socket Wrench 168 Internal	2	EA	\$1.42
5120001897985			Socket Wrench 1.562 in Lg	2	EA	\$1.45
5120001985400			Key Socket HD Screw 1.16 in	2	EA	\$0.08
5120002211072			Punch, Center, Automa	1	EA	\$14.20
5120002211542			Awl Scratch 3-1/2 Blade	1	EA	\$2.06
5120002217957			Hndl Socket Wrench 4 in Lg	2	EA	\$10.59
5120002221592			Wrench, Box	1	EA	\$8.78
5120002224284			Remover Pin Steel 6 in Lg	1	EA	\$3.85
5120002237397			Pliers Slip Joint 8 in Lg	1	EA	\$4.18
5120002249728			Scriber Mach Sgl Pt 3/8 in	1	EA	\$0.91
5120002348913			Screwdriver Cross Tip 4 in	2	EA	\$1.09
5120002355872			Socket Wrench 1.781 in Lg	1	EA	\$4.97
5120002362127			Screwdriver Flat Tip 3 in	2	EA	\$0.79
5120002370978			Socket WR 3/8 Sqdr 9/16	1	EA	\$10.49
5120002370979			Socket Wrench 2 in Lg	1	EA	\$10.61
5120002370980			Socket Wrench 2.062 in Lg	1	EA	\$5.08
5120002370982			Socket Wrench 1.5 in Lg	2	EA	\$2.34
5120002370984			Socket Wrench 1.5 in Lg	2	EA	\$2.62
5120002374974			Socket Wrench 1.968 in Lg	1	EA	\$5.08
5120002376985			Screwdriver Flat Tip 8 in	1	EA	\$2.72
5120002398254			Pliers A10 Linemans 6 in	1	EA	\$7.94
5120002400153			Bender Tube Hand 0.313 in	1	EA	\$54.98
5120002400154			Bender Tube Hand 0.375 in	1	EA	\$29.71
5120002405284			Key Socket HD Screw 3.54 in	1	EA	\$6.27
5120002405328			Wrench Adj Steel 8 in Lg	2	EA	\$7.51
5120002405330			Wrench Adj 3.5 in Lg	1	EA	\$6.82
5120002405364			Handle Soc Wr 3/8 Dr	1	EA	\$13.65
5120002408716			Screwdriver Ct No 1 – 3 in	1	EA	\$0.68
5120002420762			Bar Wrecking 36 in Hdle	1	EA	\$3.96
5120002423249			Wrench Pipe Strap 12 in	1	EA	\$6.42
5120002423354			Socket, Socket Wrenc	1	EA	\$5.20
5120002423355			Socket Wr 3/8 Sqdr ½ in	1	EA	\$5.11
5120002431693			Ext Socket Wrench 9 in Lg	1	EA	\$4.74
5120002475177			Plier Lg Rd Nose 6 in	1	EA	\$7.05

NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
5120002562150			Pliers A9 Duckbill 6 in Lg	1	EA	\$9.34
5120002628491			Wrench Pipe Strap 18 in	1	EA	\$10.14
5120002643795			Wrench Adj Steel 6 in Lg	1	EA	\$7.00
5120002749657			Wrench Box 10 in Lg	1	EA	\$14.79
5120002755837			Wrench Pipe Alum 10.5 in	2	EA	\$56.66
5120002771461			Wrench Pipe Adj 18 in Lg	1	EA	\$16.81
5120002771485			Wrench Pipe Adj 10 in Lg	1	EA	\$10.23
5120002772311			Wrench Open End 3 in Lg	2	EA	\$5.72
5120002772327			Wrench Open End 8 in Lg	2	EA	\$12.04
5120002772328			Wrench Open End 8 in Lg	2	EA	\$13.56
5120002772342			Wrench Open End 4.125 in	2	EA	\$8.49
5120002780327			Screw Starter Handtools	1	EA	\$2.50
5120002781270			Screwdriver Flat Tip 5 in	2	EA	\$0.95
5120002781273			Screwdriver Flat Tip	1	EA	\$1.15
5120002872502			Screwdriver Flat Tip	1	EA	\$14.50
5120002930031			Wrench Adj 8 in Lg	1	EA	\$28.16
5120002930049			Pliers Retaining Ring	1	EA	\$3.35
5120002931439			Vise Mach Swivel 6 in	1	EA	\$88.99
5120002931553			Pliers A22 Tongs 8.75 in	1	EA	\$2.14
5120002933399			Mallet Rubber 2 in Face	1	EA	\$6.89
5120002933510			Punch, Center, Solid	1	EA	\$0.80
5120002933512			Punch Ctr Colid 3-3/4 Lg	1	EA	\$1.97
5120002944605			Knife Putty	1	EA	\$1.13
5120003226231			Wrench Set Socket 23 Compo	1	SE	\$98.05
5120004236728			Wrench Adj 14.5 in Lg	1	EA	\$29.01
5120004498083			Wrench Adj Steel 10 in Lg	1	EA	\$9.24
5120004941911			Wrench Pliers Curved	1	EA	\$7.19
5120005959244			Key Set Socket Head	1	SE	\$2.02
5120005959573			Screwdriver Ratchet	1	EA	\$10.51
5120005959574			Screwdriver Ratchet	1	EA	\$3.65
5120005961071			Face Hammer Inserted 1.5 in	1	EA	\$0.96
5120005961075			Face Hammer Inserted 1.5 in	1	EA	\$0.99
5120005969823			Key Socket HD Screw 5.25 in	1	EA	\$0.70
5120006406365			Wrench Torque 850 Rigid	1	EA	\$57.62
5120007648061			Screwdriver Flat Tip 12 in	1	EA	\$2.99
5120008833003			Punch Set Drive Pin	1	SE	\$8.79
5120008891796			Tacker Staple Gun 1/2 in	1	EA	\$14.45
5120009038555			Holder Insert Hammer Face	1	EA	\$8.63
5120009354641			Key Set Socket Head	1	SE	\$11.01
5120009650605			Pliers Tubing Pinch 7 in	1	EA	\$14.53
5120011128344	5120000618542		Hammer, Hand	1	EA	\$8.45
5120011128350	5120008925485		Hammer Hand E22 Carpenter	1	EA	\$11.70
5120011444494	5120009006110		Hammer E22 Carpenters 13 oz	1	EA	\$5.23
5130002933456			Drill Electric Port 115V	1	EA	\$107.97
5130005968404			Etcher Elec Vibrator 120V	1	EA	\$19.76
5130005969727			Sander Oscill Pad Elec	1	EA	\$96.32
5130008891840			Dril Elec Ptbl 115V 25/60 Hz	1	EA	\$8.64
5130008897745			Saw Recprocat Ptbl 120V	1	EA	\$131.16
5130010876842			Saw Circ Ptbl 5200 RPM 115V	1	EA	\$434.53

NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
5133002234987			Bit Expansive 8.5 in Lg	1	EA	\$15.72
5133002249103			Countersink Steel 3 in Lg	1	EA	\$1.90
5133002279658			Drill Twist ¼ in 4 in Lg	1	DZ	\$5.54
5133002554062			Countersink Steel 1.688 in	1	EA	\$3.73
5133002932898			Bit, Auger	1	EA	\$6.72
5133002932900			Bit, Auger	1	EA	\$6.33
5133002932901			Bit, Auger	1	EA	\$6.58
5133002932902			Bit, Auger	1	EA	\$6.58
5133002932905			Bit, Auger	1	EA	\$7.18
5133002932907			Bit, Auger	1	EA	\$8.92
5133006186903			Drill Blank Se 29 Comp	1	SE	\$85.12
5133008654221			Bit, Center	1	EA	\$1.43
5133008654222			Bit, Center	1	EA	\$1.43
5133008654223			Bit, Center	1	EA	\$1.51
5133008654224			Bit, Center	1	EA	\$1.60
5133008654225			Bit, Center	1	EA	\$1.60
5133008654226			Bit, Center	1	EA	\$1.60
5133008654227			Bit, Center	1	EA	\$1.67
5133008654228			Bit, Center	1	EA	\$1.67
5133008654229			Bit Center Steel 6 in Lg	1	EA	\$1.70
5180001173414			Tool Kt Med Eqpt 64 Comp	1	KT	\$936.91
5180005961038			Cutter-Flaring Tool Kit	1	KT	\$60.24
5210002211875			Tape Measuring 20 Ft Lg	1	EA	\$35.30
5210002390892			Level & Plumb Alum	1	EA	\$16.07
5210002413599			Square Comb 12 in Lg Blade	1	EA	\$22.10
5210002418305			Level & Plum Alum	1	EA	\$7.31
5210002873335			Tape Measure ½ in 6 Ft	1	EA	\$1.60
5830009752968			Public Address SE 115V 60 Hz	1	EA	\$734.56
5831002210195			Control Intercomm Set	40	EA	\$12.33
5835007702924			Recorder-Reprod Audio RL	1	EA	\$845.00
5895001949874	5831001949874		Amplifier Audio Freq 200 Hz	1	EA	\$154.84
5965001683608			Adap Headset Microphone	0	EA	\$166.52
5965010739081			Microphone Dynamic 5 Ohms	8	EA	\$64.64
5965011281410			Headset-Microphon 0.2/5 kHz	14	EA	\$73.72
6130002307254	6660002307254		Power Supply Operating	1	EA	\$41.42
6230002993035			Flashlight 8.25 in Lg 3V	1	EA	\$5.61
6230007012947			Light Extension 120V AC	1	EA	\$132.51
6240011575114	6240001433124		Lamp Incandescent 130V	6	EA	\$0.28
6540006030990	6532006030990		Candle Illuminating 12S	45		
6645002504680			Watch Stop TY 1 Class 2	4	EA	\$73.14
6675010968485			Lettering Set 1 Type	1	SE	\$206.95
7105002699275			Table Folding Legs	6	EA	\$103.04
7110001326650			Chalkboard Black 4X6 Ft	1	EA	\$158.86
7110002626650			Bookcase Sect Steel Gray	9	EA	\$48.65
7110002667469			Chair Student Oak Lacquer	50	EA	\$122.00
7110002738776			Filing Cabinet Gray	2	EA	\$29.09
7125006415434			Cabinet Stor Stl 2-Door	1	EA	\$196.99
7125006802764			Locker Clothing 18X24X72 in	20	EA	\$141.70
7195009265940			Table Work 72X29X33.5 in	1	EA	\$159.85

NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
7210007158000			Blanket Wl Wh	2	EA	\$12.00
7430002544319			Typewriter Manual Ptbl	1	EA	\$82.93
7430002673457			Typewriter Elec 110V 60 Hz	1	EA	\$622.70
7490008350443			Embossing Mach ID Tape	1	EA	\$7.05
7910002247985			Polisher Floor Elect 115V	2	EA	\$357.52
7910005509118			Cleaner Vacuum Elec 115V	1	EA	\$363.95
7920002247987			Brush File Cleaner	1	EA	\$3.07
7920002691259			Wire Brush Stainless	1	EA	\$2.14
7920002915815			Brush Wire Scratch	1	EA	\$1.62
4110010460361			Ice Machine	1	EA	\$2,000.00
5120011151151			Sockets Metric	1	SE	\$19.16
5120001039783			Wrenches Metric	1	SE	\$127.85
8345006826860			USA, National Flag	1	SE	\$191.33
1370010308330			Dry Erase Boards	2	EA	\$200.00
INDIVIDUAL EQUIPMENT ISSUE						
NSN	New NSN	Part Number	Nomenclature	Qty	UI	Price
8415003761666			Parka, Extreme Cold Weather	1	EA	\$170.00
8415010409018			Cape Aircrewmans Disp 100	1	EA	\$0.40
8415010438380			Coveralls Flyers 36 Short	20	EA	\$83.90
8420010403146			Undershirt Mans Wht Sz Sm	12	EA	\$4.95
8420010403157			Drawers Mens Sht Sz 34 Reg	12	PR	\$4.30
8430005801205			Ftwear Covers Disp Sz XLg	6	PR	\$3.60
8430006150477			Boots Parachutist_Man	1	PR	\$115.00
NOTE: A variety of clothing sizes are available at IE other than those listed here.						
COMPUTER EQUIPMENT						
NOTE: Contact the base computer resource center for information on fulfilling your specific equipment needs.						
AUDIOVISUAL EQUIPMENT						
NOTE: Contact the base multimedia center for information on fulfilling your specific equipment needs.						

Attachment 8**IC 2001-1 TO AFI 11-403, AEROSPACE PHYSIOLOGICAL TRAINING PROGRAM****20 FEBRUARY 2001*****SUMMARY OF REVISIONS***

This revision further defines the role of the Human Performance Training Teams; explains the changes in cadet, High Altitude Parachute (HAP), and refresher aerospace physiological training expiration dates; outlines authorized training units, clarifies medical qualifications for civilian trainees; adds **Chapter 12**, Curriculum and Training Standards Program.

1.1.1.4. To develop and field Human Performance Training Teams (HPTT) to provide human factor and performance support for the warfighting community.

1.2. MAJCOM headquarters should support the regulatory, technical, and resource needs of the following (note that programs within line organizations may be funded through line channels): USAF Aerospace Physiology Programs, MAJCOM Aerospace Physiology Program, MAJCOM Human Performance Training Team Program, MAJCOM Aerospace Physiology Personnel, MAJCOM Aerospace Physiology Facilities and Equipment, MAJCOM High Altitude Airdrop Mission Support Program, MAJCOM Centrifuge and Pressure Suit Operations.

1.2.4.9. Provide consultant services for physiological, human factor, and human performance investigations and analyses of military aircraft and ground mishaps.

1.2.4.10. Should visit their constituent command APTFs and Human Performance Training Teams annually to review, advise, and consult on individual APTF issues. Costs for MAJCOM Coordinator APTF annual visits should be incorporated into annual O&M budget where the coordinator is assigned.

1.7. Human Performance Training Teams:

1.7.1. Provides inputs to wing commanders on human performance issues, which may negatively, impact combat capability. Assists in Operational Risk Management. Provides deployed commanders human performance information to apply to theater risk management decision-making models.

1.7.2. Provides local life support and wing safety consultation on theater specific human performance issues. Develops human performance related threat briefs specific to the theater of operation, based on local intelligence analysis, weather, and other operational/environmental conditions to increase mission effectiveness.

1.7.3. Monitors ground and flight safety mishap data for trend analysis and develops preventative human performance strategies to reduce negative human performance trends.

1.7.4. Assists with medical force protection. In conjunction with other Preventative Aerospace Medicine (PAM) team members, develops human performance threat briefings for deployed personnel designed to communicate potential health and performance risks.

1.7.5. Serves as human performance consultant to the flight surgeon for mishap investigation to help identify/resolve human performance/human factor issues.

1.7.6. Offers AFI 11-403 Standardized Curriculum as required to meet aircrew training requirements.

1.7.7. Provides consultations and training of fatigue-countermeasure tools at the operational Wing, Group and Squadron levels.

1.7.8. Complies with duty requirements specified in AFMAN 36-2105 and AFMAN 36-2108.

2.1.2. High Altitude Parachutist (HAP) Initial Training. HAP initial training is provided to qualified jump rated personnel participating in parachute operations above 10,000 feet MSL as required by Air Force, MAJCOM, US Army, or US Navy directives. In isolated circumstances, when HAP initial students cannot be trained as a homogenous group refer to paragraph 6.2.3. for training requirements. Students completing HAP initial training are certified for 5 years and recertify by completing refresher training as described in paragraph 2.1.4. Exceptions to training described in 2.1.4.1. and 2.1.5.1. apply to parachutists.

2.1.3. Officer Cadet Initial Training. Designed to provide initial aerospace physiology training to meet the specific needs of USAFA cadets and ROTC cadets in their flying programs. Students completing officer cadet initial training are certified for 4 years, but cannot be recertified by completing refresher training. **NOTE:** Training remains valid after graduation until expiration date.

2.1.4. Refresher Training. Designed to recertify training for original, HAP initial, and refresher training. All flying personnel must complete refresher training once every five years (this applies to training conducted on or after 1 Oct 98), unless they are exempted by this instruction or by AFI 11-202 Vol 1, *Aircrew Training*. The expiration date is the last day of the month in which training is required. For example, if the last training was conducted on 19 October 1998, the next training is due not later than 21 October 2003. Those who are delinquent in the training will not fly and could be subject to disqualification IAW AFI 11-402. **NOTE:** Aircrew who received a one-year extension prior to 1 Oct 98 due to an assignment in European and Middle Eastern theaters must complete refresher training at the end of their extension.

2.1.4.1. Training Requirements Before Returning to Active Flying Status. Personnel in inactive status are not required to complete physiological training (AFI 11-202, Vol 1). Aircrew members returning to active status must complete refresher physiological training prior to resuming active flying if their previous training has expired.

2.1.5.3. Aircrew required to wear pressure suits for high altitude operations complete refresher training every 5 years as described in paragraph 8.4.

2.1.5.7. Personnel Returning from Overseas. If physiological training currency should expire during the three months prior to the Permanent Change of Station (PCS) month and training can not be attained, then the member's training currency is extended by three months past the return to CONUS. This will allow the member to accomplish training upon return to CONUS without interrupting the flying schedule of either the gaining or losing wing.

2.1.5.8. Non-USAF parachutists may attend the US Navy HAHO/HALO course (NP6) in lieu of the USAF HAP initial course.

2.1.5.9. Physiology training is waived during pregnancy. Waiver must be applied for IAW AFI 48-123, Medical Examination and Standards, paragraph A7.22.1.1.

2.4. Personnel Who Must Complete Refresher Training Before Permanent Change of Station (PCS) to an Overseas Location. All flying personnel being assigned to an active flying assignment overseas must complete refresher physiological training so that currency will not expire during their overseas tour. Personnel returning to CONUS can follow the guidance in stated in 2.1.5.7.

2.6. Waiver requests. Request for waivers to this instruction should be directed to **Chief, Aerospace Physiology (or his/her designee), AFMOA/SGZA, 110 Luke Avenue, Room 405, Bolling AFB, DC 20332-7050, DSN 297-4200, Commercial (202) 767-4200, FAX DSN 754-8089, FAX Commercial (202) 404-8089.**

3.5. Personnel Not Directly Assigned to a Chamber Facility. All personnel not directly assigned to a research or training chamber activity may be attached according to MAJCOM needs to a local research, APTF or PSPTS by the MAJCOM Coordinator with AFMOA/SGZA approval. If a chamber unit requires attached personnel to perform inside observer duties during chamber operations, individual requests for approval will be considered. HPTT personnel will not ordinarily be attached to a chamber unit unless the MAJCOM coordinator justifies the need. Individual requests must be initiated, in writing, by the host APTF or PSPTS commander to their MAJCOM Coordinator for approval. Requests must fully justify reasons for using attached personnel (manning shortage, increased training load, etc.) and must state a specific period of time the attached person is needed. If approved by the MAJCOM Coordinator, the request must be forwarded to AFMOA/SGZA for final approval. Attached personnel will also respond to the other needs of the host APTF or PSPTS and must provide services as outlined by AFMOA/SGZA and as required by the host APTF or PSPTS commander, or research director. This requirement applies to individuals who meet the following conditions:

3.6.3. APTFs performing a flying and or parachute mission (EXAMPLE: HAAMS, parasail training and test parachute jumps) must project needed quotas to Airborne (Parachutist), Combat Survival Training and Water Survival-Parachuting courses annually. APTFs supporting HAAMS should schedule their parachute qualified personnel to attend the Military Freefall Parachutist Course.

5.1. Aerospace Physiological Training Facilities. Aerospace physiology training of US Air Force personnel conducted by US Army, US Navy, FAA, National Aeronautics and Space Administration, or foreign countries does not fulfill the requirements of this instruction except as noted in **2.1.5**. The Joint Specialized Undergraduate Flying Training program conducted at Pensacola fulfills the requirements of this regulation. Department of Defense (DoD) activities may request to use Air Force physiological training facilities. The Air Force will provide this training support to US Navy, US Coast Guard, and US Army organizations according to existing support agreements. All military installations or other DoD activities may directly communicate with the APTFs for required training. The FAA may ask APTFs to provide instruction for civilian aircrew personnel according to the USAF and FAA agreement.

6.1.7. Spatial Disorientation and Other Sensory Phenomena. Teaches how the body orients itself on the ground and compares this with the effects of flight. Teaches the characteristics and specific examples of Types 1, 2 and 3 spatial disorientation. Includes an explanation of the central and peripheral visual modes and their effects on orientation. Addresses illusions derived from vision, semicircular canals and otolith organs to include the G excess effect. Night Vision Goggles (NVG) will be addressed to those aircrews whose unit mission includes their use, emphasizing their use, adjustment, illusions and perceptual problems. Covers problems associated with motion sickness. This training for refresher students is required only for pilots, navigators, flight surgeons, aerospace physiologists, flight engineers, boom operators, loadmasters, and aerial gunners. All JSUPT students and navigator students entering the fighter/attack track after initial flight training are given a ride in a spatial disorientation demonstrator.

7.4.2.1. Those undergoing US Air Force or FAA physiological training chamber profiles must present a copy or original of current FAA Form 8402-2, FAA Medical Certificate flying classes I, II, or III (dated no more than three years prior to the last day of the current month), or the same forms listed in paragraph **7.4.1**, indicating that they meet medical standards.

8.4. **Refresher Training.** Aircrew who have had original pressure suit training as described in paragraph 8.1. are required to complete refresher pressure suit training every 5 years. This course is only for individuals who have completed original pressure suit training. Pressure suit refresher training must be broad enough to meet the requirements of Chapter 6, so that pressure suite and routine TARF/TTB refresher training are accomplished simultaneously. The full pressure suit chamber flight is substituted for the Type 4 refresher flight to complete both the full pressure suit and TARF/TTB refresher course requirements. Training should include emphasis on both the high altitude and the companion training aircraft.

11.1. **Aerospace Physiology Monthly Report** (RCS: HAF-SG(M) 7137). This report provides a list of assigned personnel including grade, AFSC, lecture hours, flying hours, number of chamber flights, altitude chamber hours, total accrued chamber time, number of hyperbaric dives, hyperbaric dive time, and total accrued dive time; training demographics such as branch of service, MAJCOM, base assigned, type of training, and numbers trained; HPTT activities; medical problems including inflight emergencies, types of reaction(s), severity, patient information (type of flight, date, symptoms, and treatment administered); and summarizes personnel changes including TDY, promotion, awards, decorations, etc. This report is used to:

11.1.5. Officers in charge of Physiological Training Units will prepare a monthly report in software program format. Send the original copy to AFMOA/SGZA, 110 Luke Avenue, Room 405, Bolling AFB DC 20332-7050, no later than the 10th of each month. The initiating office keeps one copy and sends one copy to the command coordinator. Letters of transmittal are not required. Discontinue reporting during emergency conditions as identified in USAF emergency action procedures. **NOTE:** HPTTs will provide a monthly report of activities but are not required to follow the format as specified in 11.1.

Chapter 12

CURRICULUM AND TRAINING STANDARDS PROGRAM

12.1.1. All aircrew training courses, listed in Chapter 2, are made available to APTFs and HPTTs in a standardized curriculum format.

12.1.2. Outside evaluations of units, flights, or training teams conducting standardized curriculum courses are accomplished as described in this chapter.

12.1.3. APTF and HPTT personnel are meeting the approved standardized objectives and appropriately utilizing courseware only in support of AFI 11-403 standardized curriculum courses. (*Note: While squadron, safety, and other HPTT specialized briefings may include the same subject material the presentation must be tailored to mission specific needs in order to avoid redundant training during aircrew refreshers.*)

12.1.4. Qualified personnel conduct the presentation of the standardized curriculum.

12.1.5. Flight commanders and HPTT coordinators are educating personnel on the requirements and responsibilities of the Curriculum and Training Standards Program and are conducting an in-house evaluation program as described in this chapter.

12.1.6. Standardized curriculum courses are taught separately. (*Note: Operational needs may dictate the combining of students requiring different standardized courses on rare occasions. All course objectives must be met for each group when combining of students is unavoidable.*)

12.1.7. APTFs and HPTTs are improving the quality of aircrew training and customer satisfaction through continuous improvement of courseware, instructor proficiency, and operational performance. (*Note: This applies to all aspects of aerospace physiology, human performance enhancement, AFI 11-290, Cockpit/*

Crew Resource Management (CRM), and AFMAN 11-210, Vol. I, Instrument Refresher Course, training conducted by aerospace physiology personnel.)

12.2.1. Biomedical Science Corps (BSC) Chief of Aerospace Physiology is responsible for the USAF Aerospace Physiology Curriculum and Training Standards Program (hereafter referred to as Curriculum and Training Standards Program). The BSC Chief also appoints a Curriculum and Training Standards Program Coordinator, directs the frequency of evaluation (normally biennially) and provides program funding.

12.2.2. Curriculum and Training Standards Program Coordinator is responsible for managing the Curriculum and Training Standards Program to include scheduling evaluators, allocating TDY funds, and providing program status reports to the BSC Chief of Aerospace Physiology. Also the Curriculum and Training Standards Program Coordinator is responsible for developing, maintaining, and distributing the Curriculum and Training Standards Program Evaluation Checklist.

12.2.3. MAJCOM/HPTT Coordinators for Aerospace Physiology are responsible for compliance and oversight of the Curriculum and Training Standards Program within their respective MAJCOM. Coordinators will track evaluation results, follow-up on required corrective actions, and provide status reports to the BSC Chief of Aerospace Physiology. Coordinators may ask the BSC Chief of Aerospace Physiology for an out-of-cycle evaluation or a no-notice evaluation of an APTF or an HPTT.

12.2.4. APTF Commanders and the 9 PSPTS Commander will ensure compliance with the goals of the Curriculum and Training Standards Program. Commanders also have the following responsibilities.

12.2.4.1. Commanders ensure instructor evaluations done on instructors teaching standardized curriculum subjects are completed at least annually on each instructor for the purposes of the Curriculum and Training Standards Program and that the evaluations are documented on a comprehensive instructor evaluation form; examples, AETC Form 281 (Instructor Evaluation Checklist), AETC Form 620 (Academic Instructor Monitoring Checklist), or comparable form. On each standardized curriculum instructor evaluation completed, a specific comment must be made as to the instructor's compliance with standardized curriculum objectives for that subject. Note: The Curriculum and Training Standards Program compliments but does not replace any other regulatory requirements for initial subject area evaluations/certifications of a new instructor or a requirement for more frequent evaluations.

12.2.4.2. Commanders will ensure that instructors not meeting the objectives of the standardized curriculum are de-certified from teaching standardized curriculum courses. Commanders will tailor and document the re-certification process specific to the individual instructors needs. The commander will maintain re-certification documentation in the individual's instructor folder.

12.2.4.3. Commanders will ensure Course Change Requests (CCRs) are submitted to the Curriculum and Training Standards Program Coordinator when recommending changes in course objectives, presenting for adoption new ideas in curriculum presentation, noting curriculum deficiencies, or making curriculum corrections. Do not accumulate CCRs to send in as a group before the yearly curriculum review, send in CCRs when they are generated. Maintain copies of submitted CCR's until the next standardized curriculum update is received from the Curriculum and Training Standards Program Coordinator.

12.2.4.4. Commanders will forward requests for copies of AFI 11-403 standardized courseware and training materials from outside the AF Aerospace Physiology field to the BSC Chief of Aerospace Physiology for release authorization.

12.2.4.5. Commanders collect data on the customer (instructor) satisfaction survey and the refresher course curriculum survey for annual submission to Curriculum and Training Standards Program Coordinator. Data should arrive no later than 31 January. Commanders should review and summarize local data for regular presentation at unit instructor continuation training.

12.2.4.6. Commanders will ensure that training is conducted for APTF instructors, appropriate to their subject area qualifications, on changes adopted into the standardized curriculum.

12.2.4.7. Commanders will conduct and document regular instructor meetings addressing the standardized curriculum changes, local improvements, instructional techniques, etc (maintain read file for non-attendees).

12.2.4.8. Commander will maintain Curriculum and Training Standards Program Checklist results (*Note: Both local and outside evaluations use the same checklist as provided by the Curriculum and Training Standards Program Coordinator*).

12.2.5. HPTT officers not assigned to an APTF will ensure compliance with the goals of the Curriculum and Training Standards Program. HPTT officers not assigned to an APTF also have the following responsibilities.

12.2.5.1. HPTT officers, in conference with their Command Coordinator, will review and document, at least annually, how they are meeting the objectives of the Curriculum and Training Program.

12.2.5.2. HPTT personnel not assigned to an APTF who teach standardized curriculum subjects may extend the instructor evaluation requirement from one to every two years. The enlisted member of the team or a local formal training instructor may evaluate the HPTT officer for the purposes of the Curriculum and Training Standards Program. Use a comprehensive instructor evaluation form; examples, AETC Form 281 (Instructor Evaluation Checklist), AETC Form 620 (Academic Instructor Monitoring Checklist), or comparable form. On each standardized curriculum instructor evaluation completed, a specific comment must be made as to the instructor's compliance with standardized curriculum objectives for that subject. Note: The Curriculum and Training Standards Program compliments but does not replace any other regulatory requirements for initial subject area evaluations/certifications of a new instructor or a requirement for more frequent evaluations.

12.2.5.3. HPTT personnel will ensure Course Change Requests (CCRs) are submitted to the Curriculum and Training Standards Program Coordinator when recommending changes in course objectives, presenting for adoption new ideas in curriculum presentation, noting curriculum deficiencies, or making curriculum corrections. Do not accumulate CCRs to send in as a group before the yearly curriculum review, send in CCRs when they are generated. Maintain copies of submitted CCR's until the next standardized curriculum update is received from the Curriculum and Training Standards Program Coordinator.

12.2.5.4. HPTT personnel will forward requests for copies of AFI 11-403 standardized courseware and training materials from outside the AF Aerospace Physiology field to the BSC Chief of Aerospace Physiology for release authorization.

12.2.6. USAFSAM conducts and funds an annual Utilization & Training Workshop. Select MAJCOM representatives will attend this meeting to update standardized courseware. Current AF/XOOT operational focus, initiatives and needs will drive aerospace physiology courseware development, modification and presentation.

12.3.1. Annual Curriculum and Training Standards Program Evaluation. Locally evaluates all APTFs annually using the Curriculum and Training Standards Program Checklist to ensure compliance with all

facets of the standardized training program. This evaluation is the responsibility of each APTF unit commander and will be conducted within 60 days of assignment and at least annually thereafter.

12.3.2. Annual Instructor Evaluation. All APTF instructors will be evaluated at least annually (see paragraph 12.2.4.1.). The APTF commander is responsible for these evaluations. Evaluations will occur not later than 13 calendar months from the last evaluation for instructors currently teaching standardized curriculum. Previously qualified standardized curriculum instructors who are returning to teaching of standardized curriculum will be evaluated on one or more of the standardized curriculum hours as determined by the APTF commander.

12.3.3. Directed Curriculum and Training Standards Program Evaluation. One aerospace physiology officer and one aerospace physiology enlisted member, both from outside the inspected APTF, will perform AFMOA/MAJCOM Directed Curriculum and Training Standards Program Evaluations. These evaluations supplement the Annual Curriculum and Training Standards Program Evaluations and will be conducted on a biennial basis or as directed by AFMOA or MAJCOM. Inspectors are responsible for assessing the APTFs' Curriculum and Training Standards Program and for the outbrief of designated Medical Group personnel (see paragraph 12.6.). The Curriculum and Training Standards Program evaluator will review local evaluations and may reevaluate any instructor at the evaluator's discretion. Inspectors will document the APTF evaluation and forward a copy to the respective MAJCOM Coordinator and the Curriculum and Training Standards Program Coordinator following the outbrief.

12.4. Scheduling of Directed Curriculum and Training Standards Program Evaluations.

12.4.1. Curriculum and Training Standards Program coordinator will work with the BSC Chief of Aerospace Physiology and MAJCOM Coordinators to establish evaluation dates for APTFs. On-site inspections of an HPTT location will be conducted as requested by the MAJCOM Coordinator and if approved by the BSC Chief of Aerospace Physiology.

12.4.2. Curriculum and Training Standards Program coordinator will provide fund cites and assign inspectors. The duration of evaluations should not exceed 3 training days.

12.5. Reporting Criteria for Directed Curriculum and Training Standards Program Evaluations.

12.5.1. Follow the grading instructions on the "Curriculum and Training Standards Program Checklist." A copy of this checklist is available on the USAFSAM Aerospace Physiology web site. A hard copy may also be requested from the Curriculum and Training Standards Program Coordinator.

12.5.2. The evaluator's report will begin with an overall evaluation summary that may be as short as one paragraph, but no longer than one page. Use one of the statements provided with the checklist to begin the evaluation summary. Next, the report body will list and explain checklist discrepancies; each discrepancy will be followed by a recommendation. There is no limit to the number of pages in the report body. Additional information may be included in the overall assessment to highlight the inspector's view on what was discovered (i.e. outstanding individual efforts, items to benchmark, or areas of concern). **DO NOT** attach worksheets or the Curriculum and Training Standards Program checklist to the final report.

12.6. Outbrief for Directed Curriculum and Training Standards Program Evaluations. When a Directed Curriculum and Training Standards Program Evaluation is conducted the Curriculum and Training Standards Program evaluator will conduct a formal outbrief with the APTF commander and APTF Superintendent and, as appropriate or requested, to the Medical Squadron Commander, and the Medical Group Commander. Outbrief preparation involves data collection, grading, reference materials, required

follow-up actions, and preparation of any Standards Program evaluation reports. The inspectors must cover performance and compliance with standardized objectives in detail.

12.7. Administration of Directed Standardization Program Evaluations. Inspectors will assemble their report according to the instructions in [12.5.2](#). Copies of the report will be left with the APTF commander and forwarded to Curriculum and Training Standards Program coordinator. APTF commanders will then have 30 days to file a report to their MAJCOM Coordinator outlining corrective actions.